

IN THE UNITED STATES DISTRICT COURT  
FOR THE NORTHERN DISTRICT OF ALABAMA

JOHN DANIEL CRITTENDEN and DENISE )  
MCGOUGH CRITTENDEN, )  
 )  
Plaintiffs, )  
 ) No.  
vs. ) 2:16-cv-01712-KOB  
 )  
KIA MOTORS CORPORATION, KIA MOTORS )  
AMERICA, INC., HYUNDAI AMERICA )  
TECHNICAL CENTER, INC., and ABC, )  
DEF and/or GHI, being those )  
persons, firms, corporations, or )  
entities that designed, )  
manufactured, engineered, )  
marketed, sold, installed, and/or )  
otherwise placed into the stream )  
of commerce the front seat )  
assembly and/or its component )  
parts, )  
 )  
Defendants. )

VIDEOTAPED DEPOSITION OF GREGORY D. STEPHENS

January 26, 2018

Tacoma, Washington

Byers & Anderson, Inc.

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21 Also present: Cody Malone  
22 Videographer, Byers & Anderson, Inc.  
23 Court Reporters & Video  
24  
25

Page 2

1 EXAMINATION INDEX

2 EXAMINATION BY: PAGE NO.  
3 MS. HARRIS 6

4 EXHIBIT INDEX

5 EXHIBIT NO. DESCRIPTION PAGE NO.  
6 Exhibit No. 21 8-page Notice of Deposition 6  
7 Exhibit No. 22 17-page Crittenden Report, 7  
8 12/18/17  
9  
10 Exhibit No. 23 13-page Yielding Seat Info. 45  
11 Exhibit No. 24 23 pages Billing GDS 57  
12 Exhibit No. 25 8 DVDs Vehicle/Seat 57  
13 Inspections  
14 Exhibit No. 26 84-page G. Stephens Report 57  
15 Material  
16 Exhibit No. 27 553 pages Seat Reference 57  
17 Material Volume 1  
18 Exhibit No. 28 571 pages Seat Reference 58  
19 Material Volume 2  
20 Exhibit No. 29 419 pages Seat Reference 58  
21 Material Volume 3  
22 Exhibit No. 30 453 pages Seat Reference 58  
23 Material Volume 4  
24 Exhibit No. 31 340 pages Crittenden v. Kia 87  
25 CRA Inspections  
26 Exhibit No. 32 4-page Index of Disc. 1 KMC 112  
27 DOC Production  
28 Exhibit No. 33 73 pages Duplicate 113  
29 Correspondence File

Page 3

1 EXHIBIT INDEX (Continued)  
2 EXHIBIT NO. DESCRIPTION PAGE NO.

3 Exhibit No. 34 1-page Index of Disc 1 Def. 114  
4 KMC DOC Production  
5 Exhibit No. 35 15-page Subject Vehicle Tahoe 115  
6 Files  
7 Exhibit No. 36 19-page Subject Vehicle Kia 115  
8 Files  
9 Exhibit No. 37 71-page Crittenden v. Kia 115  
10 Investigative File  
11 Exhibit No. 38 78 pages copies of photos 115  
12 produced by Plaintiff  
13 Exhibit No. 39 10 pages Kia Seat Photos from 116  
14 Crash  
15 Exhibit No. 40 45-page NHTSA Head Restraint 116  
16 File  
17 Exhibit No. 41 49 pages Dummy Info 117  
18 Exhibit No. 42 11-page Kia Test Pulse 117  
19 Comparison  
20 Exhibit No. 43 58-page Faro Data 118  
21 Exhibit No. 44 19-page IIHS Info 118  
22 Exhibit No. 45 2-page Curriculum Vitae 119  
23 Exhibit No. 46 1-page Deposition and Trial 120  
24 Testimony  
25 Exhibit No. 47 8-page OOP Images 123  
26 Exhibit No. 48 14-page Position in Seat 125  
27 Photos  
28 Exhibit No. 49 4-page NHTSA Docket 89-20 128  
29 Volume 1  
30 Exhibit No. 50 4-page NHTSA Docket 89-20 129  
31 Volume 2

Page 4

1 BE IT REMEMBERED that on Friday,

2 January 26, 2018, at 2208 North 30th Street, Tacoma,  
3 Washington, at 12:38 p.m., before Christy Sheppard,  
4 Certified Court Reporter, CCR, RPR, appeared GREGORY D.  
5 STEPHENS, the witness herein;

6 WHEREUPON, the following proceedings  
7 were had, to wit:

8 <<<<<< >>>>>>

9  
10  
11  
12 THE VIDEOGRAPHER: Good afternoon. We  
13 are now on the record. The time is 12:38 p.m. Today is  
14 Friday the 26th day of January 2018.

15 This is the video recorded testimony of Gregory  
16 Stephens being taken in the case of Crittenden versus Kia  
17 Motors Corporation, et al. The cause number of  
18 2:16-cv-01712.

19 The deposition is taking place in North 30th Street  
20 in Tacoma, Washington. At this time we would ask the  
21 counsel present to state whom they represent.

22 MS. HARRIS: Rebecca Harris on behalf  
23 of the plaintiffs.

24 MR. MARTENSON: De Martenson, Jeremy  
25 Gaddy for the Kia defendants.

Page 5

1 THE VIDEOGRAPHER: Thank you. At this  
2 time we would ask our court reporter, Christy Sheppard,  
3 to please swear in the witness and proceed.

4  
5  
6 GREGORY D. STEPHENS, having been first duly sworn  
7 by the Certified Court Reporter,  
8 testified as follows:

9  
10  
11 EXAMINATION

12 BY MS. HARRIS:

13 Q Please state your full name, Mr. Stephens.

14 **A Gregory D. Stephens, S-T-E-P-H-E-N-S.**

15 Q All right. Mr. Stephens, you sat through the deposition  
16 of Mr. Blaisdell this morning, correct?

17 **A Yes, ma'am.**

18 Q Okay. And it appears to me that you guys shared a  
19 majority of your file, right?

20 **A It was one -- it's basically one file, yes, ma'am.**

21 Q Right. And so we have marked up through -- we marked 20  
22 exhibits to his deposition, so at any point in time you  
23 want to refer to those, please do so.

24 **A I appreciate that.**

25 **(Exhibit No. 21 marked**

Page 6

1 **for identification.)**

2  
3 Q Okay. I have marked as Exhibit 21 the notice of your  
4 deposition. Have you seen that?

5 **A Yes, ma'am.**

6 Q And I am marking as 22 your report.  
7 (Exhibit No. 22 marked  
8 for identification.)

9  
10 Q Just make sure that's your report, the final report, if  
11 you will.

12 **A Yes, ma'am.**

13 Q Okay. And I understand you do not have an index of your  
14 file anywhere?

15 **A That's -- well, certainly not here. I mean, obviously we**  
16 **have stuff back at the office that the administrative**  
17 **people take care of but nothing that we have here.**

18 Q Do they have an index of your entire file, for example,  
19 all these little folders?

20 **A I don't believe so. They will normally kind of log in**  
21 **stuff that gets received, but we normally will print it**  
22 **out or make some sort of a record of it this way.**

23 Q Okay. All right. So based on your report, it's my  
24 understanding that you have been asked by Kia to evaluate  
25 the crash performance of the subject Kia Sportage, right?

Page 7

1 **A In terms of its driver seating system and the facts and**  
2 **circumstances of the accident as they relate to them.**

3 Q Okay. Would it be fair to categorize your opinions as --  
4 you intend to offer defect opinions?

5 **A I would think that that falls under that as well as, you**  
6 **know, just the overall performance and evaluation of some**  
7 **of the materials that have been provided to us.**

8 Q Okay. Now I understand you have done a number of  
9 accident reconstructions in the past, right?

10 **A Yes, ma'am.**

11 Q Did you do an independent accident reconstruction in this  
12 case?

13 **A I did not.**

14 Q You are relying on Mr. Hoover for the accident recon?

15 **A I would say certainly most of it. I have certainly had a**  
16 **chance, as you recall, over at Weil Wrecker to inspect**  
17 **the Tahoe in addition to the Sportage.**

18 Q Right.

19 **A So obviously I have some opinions that may overlap on his**  
20 **as it relates to the offset nature, but I would, for the**  
21 **most part, agree with what he's done thus far.**

22 Q Okay. Did you visit the scene when you were -- well,  
23 when you were at Weil's?

24 **A Certainly not as it relates to this accident or this**  
25 **case.**

Page 8

1 Q Have you been to the scene of the accident?

2 **A I believe I have been through there a number of times.**

3 Q On your way to Weil's?

4 **A No. If I remember the location, it would just be kind of**  
5 **on my way to the outskirts of Alabama.**

6 Q Okay. Did you ever inspect the scene for purposes of  
7 this case?

8 **A No.**

9 Q Do you have any additional accident recon opinions to add  
10 to what Mr. Hoover testified to on Tuesday of this week?

11 **A I don't believe so. Certainly not as it would relate to**  
12 **the reconstruction.**

13 Q Okay. And would you agree that Mr. Hoover's  
14 reconstruction is very similar to Mr. Kennett's, the  
15 plaintiff's accident recon expert?

16 MR. MARTENSON: Object to form.

17 THE WITNESS: I have not done that  
18 analysis, so I haven't done a comparative type of  
19 analysis to identify that information for you.

20 Q (By Ms. Harris) Okay. Are you -- do you intend to  
21 criticize any of Mr. Kennett's work with respect to  
22 accident reconstruction in this case?

23 MR. MARTENSON: Object to the form.

24 THE WITNESS: None that I have studied  
25 to this point, at least as it relates to the

Page 9

3 (Pages 6 to 9)

1 reconstruction.  
2 Q (By Ms. Harris) In other words, do you intend to offer  
3 opinions about, you know, whether his Delta-V is correct,  
4 or the crash pulse, or anything like that?  
5 **A Obviously, we will have to see what's testified to at**  
6 **trial, so if there's any new information that comes up,**  
7 **but as to the work done today, I have not formed any of**  
8 **that opinion.**  
9 Q Do you intend to offer any opinions with respect to human  
10 factors or warnings?  
11 **A I don't believe so.**  
12 Q Okay. Occupant kinematics?  
13 **A Certainly as it relates to the seat back performance**  
14 **similar to what Mr. Blaisdell had talked about a little**  
15 **bit.**  
16 Q Okay. So you intend to offer opinions about how Mr.  
17 Crittenden moved in the seat during the accident  
18 sequence?  
19 **A Only as it relates to the seat back performance.**  
20 Q Well, what other occupant kinematics would you -- would  
21 there be involved?  
22 **A I think I would defer to the specifics of Mr. Crittenden**  
23 **and portions of his body interacting with things to Dr.**  
24 **Banks. And I would relate the kinematics, in general, as**  
25 **an occupant, Mr. Crittenden in this particular case,**

Page 10

1 **some of that information as it relates to how he would be**  
2 **positioned in the seat.**  
3 Q Okay. And maybe my question was badly worded. Do you  
4 intend to rely upon Dr. Banks and Mr. Crittenden's  
5 treating physicians, and any other expert that testifies  
6 in this case, with respect to Mr. Crittenden's medical  
7 condition prior to the accident?  
8 **A I would certainly defer to them on the specifics of it,**  
9 **but working under the understanding of his spinal**  
10 **condition in terms of how it would posture him in the**  
11 **seat is effectively what I'm using in my seat back**  
12 **evaluation.**  
13 Q Do you have any understanding of his spinal condition  
14 other than what you have read from Dr. Banks or learned  
15 from Dr. Banks and his treating physicians?  
16 **A I would think the only other information would be what I**  
17 **have seen in terms of some of the medical records.**  
18 **Obviously, I didn't review them with the type of**  
19 **information that the doctors, the treating doctors and**  
20 **Dr. Banks have taken a look at it. But, you know, in**  
21 **taking a look at some of the imagery, it certainly has**  
22 **some -- gives me some understanding of how his spine**  
23 **would interact with the seat structure.**  
24 Q Okay. You are not a medical doctor?  
25 **A Absolutely not.**

Page 12

1 **interacting with his seat and the deformation that I've**  
2 **evaluated and analyzed as it relates to the performance**  
3 **of the seat.**  
4 Q Okay. So what I am hearing you say, correct me if I'm  
5 wrong, you intend to leave the injury mechanism to Dr.  
6 Banks?  
7 **A For sure, yes, sir, or ma'am. Pardon me.**  
8 Q That's fine. And obviously you intend to -- well, do you  
9 intend to defer to Dr. Banks on any preexisting medical  
10 conditions that Mr. Crittenden may have had?  
11 **A Well, certainly I have reviewed all of the available**  
12 **information on that which includes the two doctors, or**  
13 **the three doctors I should say, which includes Dr. Banks**  
14 **of your question, but I have -- I'm working with that**  
15 **understanding as it relates to the performance, meaning**  
16 **his preimpact condition explains some of the damage and**  
17 **performance of the seat that I have observed.**  
18 Q But you are relying on others to -- for the opinions, the  
19 medical opinions related to his preimpact condition?  
20 **A Certainly there's some of that, but obviously I have read**  
21 **and reviewed some of the information that I would say in**  
22 **particular Dr. Sullivan has talked about, and some of the**  
23 **information that he's talked about, but I think as you**  
24 **pointed out earlier, I'm not a -- Mr. Blaisdell and**  
25 **myself are not radiologists, but we did take a look at**

Page 11

1 Q Okay. Did you go to medical school?  
2 **A No, I didn't.**  
3 Q All right. Do you examine patients on a regular basis?  
4 **A No.**  
5 Q Have you ever diagnosed a patient with any spinal  
6 condition?  
7 **A No, ma'am.**  
8 Q Okay. Have you ever read any imaging studies or films  
9 with respect to the spine as part of diagnosing a  
10 patient?  
11 **A No, ma'am.**  
12 Q Do you have any formal medical training?  
13 **A Not as I'm understanding your question.**  
14 Q Okay. Have you ever been qualified in a court of law to  
15 offer medical opinions?  
16 **A Again, not as I'm understanding your question.**  
17 Q Okay. And I think you said this, but you intend to  
18 consider all medical testimony that we get from now until  
19 trial, and even that that may come during trial, correct?  
20 **A I certainly will consider everything that comes up after**  
21 **this deposition, if that's what you are asking.**  
22 Q Right. You are not going to ignore certain doctors and  
23 believe others, right?  
24 **A Again, I will look at everything. I have no idea what's**  
25 **going to come out, but I will look at everything.**

Page 13

4 (Pages 10 to 13)

1 Q All right. Do you intend to offer any statistical  
 2 opinions in this case?  
 3 **A Again, depends on how you interpret that, but obviously I**  
 4 **consider this a pretty severe accident, and that in some**  
 5 **respects refers back to at least some form of statistics.**  
 6 Q Other than accident severity, what other categories of  
 7 statistical information or opinions do you intend to  
 8 offer?  
 9 **A I think generally as far as evaluating seat performance,**  
 10 **we oftentimes refer to the fact that the seats are**  
 11 **essentially doing a good job, and that is shown in the**  
 12 **statistical findings on most accidents out there.**  
 13 Q Okay. Do you consider yourself an expert in statistics?  
 14 **A Again, certainly as it relates to taking a look at them**  
 15 **from an accident reconstruction and, you know, perhaps**  
 16 **severity standpoint, but I would think that statisticians**  
 17 **sometimes would take a little offense to that.**  
 18 Q So would the doctors if you are going to offer medical  
 19 opinions.  
 20 Have you ever been qualified in a court of law in  
 21 the are of statistics?  
 22 **A I have certainly used them. And, again, I would consider**  
 23 **my utilization of them as more or less taking the**  
 24 **information that has been researched and published as**  
 25 **opposed to performing it.**

Page 14

1 Q Okay. What about injury mechanism or in other words, how  
 2 he received his injury?  
 3 **A I would defer mainly to Dr. Banks on that, other than my**  
 4 **understanding of the injury mechanism.**  
 5 Q Other than your understanding of the injury mechanism  
 6 from the medical records?  
 7 **A No, from Dr. Banks.**  
 8 Q From Dr. Banks, okay.  
 9 **A Sorry.**  
 10 Q All right. In your report you go through the things that  
 11 you have reviewed, I believe, on Page 2. Well, starting  
 12 on Page 1. There are a couple deposition that I believe  
 13 have been taken since you finalized your report, so under  
 14 No. 7, what other depositions have you read? I'm sorry,  
 15 No. 8.  
 16 **A Yes, No. 8, I believe, and I can list them off if you**  
 17 **would like.**  
 18 Q Sure.  
 19 **A Taylor Gunnells, G-U-N-N-E-L-L-S, Todd Hoover, Kelly**  
 20 **Kennett, Kim -- or I should say Bongku Kim, B-O-N-G-K-U,**  
 21 **Kim, John McDaniel, Steve Meyer, M-E-Y-E-R, and I believe**  
 22 **Dr. Joseph Sullivan, S-U-L-L-I-V-A-N, the III, I think.**  
 23 Q In reviewing depositions in this case, did you ask to  
 24 review the deposition of the driver of either vehicle?  
 25 **A I believe I asked for, you know, whatever was available**

Page 16

1 Q I'm sorry. I didn't understand. I understood you up  
 2 until the last clause, as opposed to performing it? What  
 3 do you mean?  
 4 **A Performing statistical type studies. In other words, I**  
 5 **don't know that I've actually performed a statistical**  
 6 **like study, taking into account everything that goes into**  
 7 **that. However, I rely on them pretty regularly.**  
 8 Q Okay. Understand. You haven't done a statistical  
 9 analysis specific for this case?  
 10 **A Correct.**  
 11 Q All right. You also say in your report that you were  
 12 asked to respond to claims made by plaintiff's experts.  
 13 Experts -- obviously you are going to respond to Mr.  
 14 Meyer's opinions and I just asked you with respect to Mr.  
 15 Kennett's opinions, but I want to include all of his  
 16 opinions. Do you intend to respond to any of Mr.  
 17 Kennett's opinions?  
 18 **A Well, I think some of it, as far as the seat back**  
 19 **evaluation, does in fact respond to Mr. Kennett's**  
 20 **opinions, so, yes, I think there is some responses to Mr.**  
 21 **Kennett.**  
 22 Q What about his biomechanical opinions?  
 23 **A Again, depends on what you define as biomechanical, but**  
 24 **if you are including in that the movement of Mr.**  
 25 **Crittenden relative to the seat back, I would say yes.**

Page 15

1 **just in general.**  
 2 Q Did you specifically ask for the drivers' depositions?  
 3 **A I don't know that I specifically asked for them, but I**  
 4 **asked for all depositions that had been taken.**  
 5 Q Did you question why there weren't depositions of either  
 6 driver?  
 7 **A No.**  
 8 Q Okay. That didn't give you any pause?  
 9 **A Well, other than the pause of I thought they were missing**  
 10 **because oftentimes we have depositions, but other than**  
 11 **that.**  
 12 Q Okay. We have gone through -- well, you list everything  
 13 that you have reviewed. Tell me everything else that you  
 14 have done in preparation for offering your opinions.  
 15 **A Just in general?**  
 16 Q Well, obviously you inspected the vehicles, right?  
 17 **A Yes, ma'am.**  
 18 Q And you did -- you and Mr. Meyer did a de-trim, correct?  
 19 **A Yes, ma'am.**  
 20 Q And you reviewed documents that are listed in here,  
 21 right?  
 22 **A Yes, ma'am.**  
 23 Q Okay. What about meetings with other experts, tell me  
 24 about meetings.  
 25 **A I don't recall any. I seem to recall that there was one**

Page 17

5 (Pages 14 to 17)



1 but I was not available at the time.  
2 Q Okay. Well, when was that?  
3 A I thought Mr. Blaisdell had indicated that it was  
4 somewhere in October. I would have to look at his  
5 records.  
6 Q Okay. And that was a WebEx meeting or something?  
7 A I don't know. I apologize.  
8 Q Well, you have obviously conferred with Mr. Blaisdell in  
9 this case?  
10 A Yes, ma'am.  
11 Q Have you talken -- have you talken?  
12 Have you talked to Dr. Banks about this case?  
13 A I believe so.  
14 Q Okay. When was that?  
15 A I thought it was sometime in either November or December.  
16 Q Okay. Do any of your records that you have with you  
17 reflect that?  
18 A I don't know. I could check my billings, but I don't  
19 know.  
20 Q If you don't mind taking a look at your billings.  
21 A Okay. Want me to look?  
22 Q Yeah, we don't need to go off the record. You can just  
23 take a look for them.  
24 A I don't believe it says in here. I have time entries  
25 that go up through October and November but not into

Page 18

1 A I don't recall.  
2 Q Okay. Do you know when you formulated your opinions with  
3 respect to the design?  
4 A Well, certainly that's an evolving process over the case.  
5 I was retained -- I can tell you at least the time frame,  
6 back in November of 2016, and my report was finalized in  
7 late December, so I would think that that's an evolving  
8 process that -- in terms of the analysis of the seat and  
9 the seat system.  
10 Q Did you have an opinion about the safety of the seat  
11 system when you inspected the vehicle for the first time  
12 I think it was last February or something?  
13 A I seem to recall taking a look at that, and at that point  
14 in time I don't recall that we were able to move the  
15 seat, again, because we were not with Mr. Meyer. And I  
16 forget if you were there. I apologize, but I knew that  
17 there was going to be at least some form of a de-trim  
18 afterwards which would help in my understanding of how  
19 the seat performed.  
20 Q Okay. So at that point you didn't really have any seat  
21 performance opinions?  
22 A I mean, other than the fact that, you know, the crash and  
23 its severity looked pretty consistent with what I would  
24 understand the seat to have deformed at. And, again,  
25 that's coming from my reconstruction background.

Page 20

1 December, so -- and, again, I don't know that I normally  
2 point out who I'm talking to.  
3 Q Okay. But it's your recollection that you had a phone  
4 call with Dr. Banks in either October or November?  
5 A I don't -- I seem to recall phone calls with Mr.  
6 Martenson, but I don't know, as I sit here, if it also  
7 included Dr. Banks. I think it would have to because I  
8 recall talking at some point in time to him about this.  
9 Q Okay. Do you recall how many phone calls you had when  
10 Dr. Banks was on the line?  
11 A All I can recall, at this point in time, is maybe one.  
12 Q Okay. And was Mr. Martenson on the phone for all of  
13 those?  
14 A I don't know. I apologize.  
15 Q All right. When you talked to Dr. Banks in October or  
16 November, had you formed your opinions with respect to  
17 the design defect or lack thereof at that time?  
18 A I don't recall any. I recall talking about how we were  
19 starting to understand the seat back performance in terms  
20 of its deformation relative to what Mr. Meyer had done.  
21 And, again, I don't know if that was necessarily with Dr.  
22 Banks or Mr. Martenson.  
23 Q Well, what I'm asking is, had you formed your opinions  
24 about the defect or lack thereof when you spoke -- the  
25 first time you spoke with Dr. Banks?

Page 19

1 Q All right. Did you review any medical records before  
2 speaking with Dr. Banks?  
3 A I don't think so. I have no memory of that.  
4 Q Okay. So did you have an opinion that the seat was not  
5 defectively designed before you had an understanding of  
6 Mr. Crittenden's medical condition?  
7 A Again, I don't know that I had that understanding at all,  
8 in terms of reviewing that prior to his condition.  
9 Q Right. So without an understanding of his condition, did  
10 you have an opinion about whether the seat was defective?  
11 A I don't know that I had formulated that. And I'm trying  
12 to remember the timing of when I started to find out  
13 about his condition. But if memory has it, it would be  
14 sometime in October/November as far as I started to  
15 understand his condition.  
16 Q Okay.  
17 A By that time, I think as you are aware, I had had a  
18 chance with Mr. Meyer to de-trim the seat and have an  
19 understanding of at least the deformation of the seat.  
20 Q Right. So you understood how the seat performed, but it  
21 wasn't until you gained some understanding of his medical  
22 condition that you formed your ultimate opinion that the  
23 seat was not defective?  
24 A No, not necessarily. No, obviously once you have a  
25 chance to see the seat in terms of its damage and how it

Page 21

6 (Pages 18 to 21)

1 performed, then it becomes an understanding of what kind  
2 of energies and movements are involved to get to that  
3 type of damage and deformation. Also having an  
4 understanding of what type of testing was performed on  
5 it, those all kind of go into an evaluation.

6 Q Okay. So absent any understanding of his condition, you  
7 could offer an opinion the seat wasn't defective?

8 MR. MARTENSON: Object to the form.

9 THE WITNESS: I think from a seat  
10 performance standpoint and how it performed, one of the  
11 things that we looked at is whether all the structures  
12 are involved in the deformation, if there's any irregular  
13 information. And I think one of the questions that we  
14 had in looking at the seat deformation was why it might  
15 have been twisted the way it was. Which, again,  
16 ultimately, starts to come back to again his either  
17 preimpact positioning, either by medical or by his own  
18 self-positioning or some facet of the reconstruction.

19 Q Okay. So I will try it again.

20 Do you need to have an understanding of -- let's  
21 just refer to your report. That might be easier for me.  
22 Let's go to Page 3, the first paragraph.

23 A Yes, ma'am.

24 Q Okay. You describe this condition that we have been  
25 talking about, correct?

Page 22

1 think so at that time. I just knew that it was a little  
2 asymmetric, and it would be some form of an out of  
3 position type damage, or something about the  
4 reconstruction that dictated that.

5 Q Okay. So when you talk about the lateral curvature of  
6 the spine, you are talking about scoliosis; is that  
7 right?

8 A I would defer to Dr. Banks on exactly what it was, but in  
9 his report he has a diagram -- or a couple of diagrams of  
10 the spine, and it has from, as you are looking at me, a  
11 curvature associated with it. And then from, if you were  
12 to look at me from the side view, it has kind of a  
13 forward curvature associated with it.

14 Q Right. And I'm talking about sort of the side curvature.

15 A The lateral?

16 Q That's what you are relying on for your opinion that he  
17 was out of position?

18 MR. MARTENSON: Object to the form.

19 Misstates the prior testimony.

20 Q (By Ms. Harris) Go ahead.

21 A I would say that in combination with the idea that he may  
22 have been out of position purposefully.

23 Q Okay. Do you believe he was out of position  
24 purposefully?

25 A Well, it's either that and/or the condition that are

Page 24

1 A Yes, ma'am.

2 Q All right. And you say "According to Dr. Banks," right?

3 A Yes, ma'am.

4 Q Okay. So based on what Dr. Banks has told you, or you  
5 read from his report, you describe a medical condition as  
6 what?

7 A Had an exaggerated curve in his spinal column in both the  
8 forward and lateral direction.

9 Q Okay.

10 A As well as being fused effectively from T2 to L2.

11 Q And the fused language, is that something you determined  
12 on your own?

13 A No.

14 Q That came from Dr. Banks?

15 A Well, it came from a review of Dr. Banks as well as the  
16 treating and other doctor involved.

17 Q And the exaggerated curve of his spinal column, can you  
18 quantify that?

19 A I can't. I would defer to Dr. Banks on that and others.

20 Q Do you need to know how exaggerated the curve of his  
21 spinal column is in order to understand how occupant  
22 kinematics worked in this case?

23 A Certainly that would come out in the analysis of it, but  
24 I think your question was upon observing the damage to  
25 the seat, did you need to know that for that, and I don't

Page 23

1 driving it.

2 Q Do you know whether he was out of position purposefully?

3 A Again, I would defer to Dr. Banks on the medical  
4 condition with regard to the seat damage. There's more  
5 damage, as you are aware of, on the outboard side of the  
6 seat which would indicate he might have been positioned  
7 over towards the left of the seat.

8 Q Any other evidence besides the damage to the seat that  
9 would suggest he was out of position?

10 A Again, I would just defer back to the medical records.

11 Q Okay. Any testimony from anybody?

12 A Not to my knowledge, in terms of a pre-impact condition.

13 Q All right. And so, again, you can't quantify the  
14 curvature of the spine to the side which may have put him  
15 out of position?

16 A I would defer to Dr. Banks on that.

17 Q Okay. Let's go through your summaries of your opinions.  
18 Your first opinion.

19 A Last page?

20 Q Last page, yes.

21 A Thank you.

22 Q First opinion that's under summary, you say that the Kia  
23 Sportage is not defective or unreasonably dangerous.

24 What is your definition of defective?

25 A Well, again, as it relates to this seating system,

Page 25

7 (Pages 22 to 25)

1 obviously, we have looked at a lot of information as it  
2 relates to its strength, its energy management, its  
3 dynamic performance. And I would say that everything  
4 that we have in there, given it's state of the art, is  
5 above and beyond what I have seen in terms of performance  
6 from, I guess, the available data.

7 And so I would tend to consider that to be a well  
8 understood seat system, and a seat system that provides a  
9 lot of energy absorption.

10 Q I'm not asking about the seat. I'm asking -- you used  
11 the term "not defective." What is your definition of  
12 defective?

13 MR. MARTENSON: Object to form. Asked  
14 and answered. You may go ahead again.

15 THE WITNESS: I apologize.

16 MS. HARRIS: De, I would ask that you  
17 quit making speaking objections. They are not allowed  
18 under the rules and you know that. You are coaching.  
19 During the Blaisdell deposition it didn't matter. But if  
20 he answers, "I just answered that," because you have  
21 completely coached him. That is the first warning.  
22 Please don't make speaking objections.

23 MR. MARTENSON: And the record will  
24 reflect, madam, that that's not a speaking objection. It  
25 was making a specific objection and there was no speaking

Page 26

1 objection to it, so please don't feel that you have to  
2 tell me what to do.

3 Q (By Ms. Harris) Do you need the question?

4 A I don't think so.

5 Q Go ahead.

6 A I will do my best. I apologize.

7 Q It's an easy one. What is defective? How do you define  
8 defective?

9 MR. MARTENSON: Same objection.

10 THE WITNESS: You know, as to the  
11 nature of the defect as it relates to seat system  
12 performance, obviously there's many different things that  
13 go into that as far as circumstances that individual  
14 accidents will encounter or not encounter, as far as an  
15 evaluation.

16 But certainly in a general kind of global sense,  
17 obviously if something is performing in a manner that is  
18 unexpected and is not providing the benefit and the  
19 design that it was intended, you start to question the  
20 idea of whether or not it's a defective type of  
21 condition.

22 And obviously the government has various definitions  
23 of what is considered defective that go into that.

24 Q Okay.

25 A As well as the manufacturers. I apologize.

Page 27

1 Q Yeah, I don't mean to cut you off. Are you done?

2 A Yes, I think so.

3 Q So the Stephens definition of defective in this context  
4 is a vehicle or a seat that's not performing in a  
5 manner -- excuse me. Strike that.

6 Your definition is a seat that's performing in a  
7 manner that is not protecting the occupant or unexpected?

8 A No, not necessarily. It's a question that is essentially  
9 performing in a manner that is not designed or intended  
10 in some respects as it relates to whatever you are  
11 evaluating.

12 And that's why to almost a certain extent it depends  
13 on the condition to which you are asking.

14 Q Do you have an understanding of the difference between a  
15 design defect and a manufacturing defect?

16 A I have probably a rudimentary understanding.

17 Q Okay. What is your understanding?

18 A Generally, it would be that in terms of a manufacturing  
19 defect that something was not attached or not fastened or  
20 welded or glued or put together in a manner that it was  
21 intended to.

22 Q Okay. And design defect would be?

23 A Just that the end product did not do as designed. In  
24 other words, if you, I don't know, push an electric  
25 button and it doesn't do what it's designed to do, then I

Page 28

1 would consider that to be a design or potentially  
2 manufacturing, if there was something manufacturing with  
3 it.

4 Q Okay. You use the term -- well, your opinion is that the  
5 subject Sportage was not unreasonably dangerous. What do  
6 you mean by that?

7 A Again, based on all of the information that we had  
8 available to us to take a look at and evaluate on the  
9 testing to the subject seating system, that it performed  
10 in a manner that was very good as it relates to occupant  
11 protection and energy absorption.

12 Q When you say -- sorry, were you going to say something  
13 else?

14 A No, I don't think so.

15 Q So unreasonably dangerous would be if it performs in a  
16 manner that's not good?

17 MR. MARTENSON: Is that a question?

18 MS. HARRIS: Yes.

19 THE WITNESS: Again, it depends  
20 obviously on what you define as good and bad, but  
21 certainly from an occupant protection and a seat system  
22 standpoint, good performance is one that, you know, is  
23 researched and published on and so I kind of go back to  
24 that information as it relates to what is good and bad.

25 Q (By Ms. Harris) Well, that's what I was asking. How do

Page 29

8 (Pages 26 to 29)



1 you define what's good and bad?  
2 **A It's generally looking from, again, a very global, not**  
3 **necessarily related to this case standpoint, you are**  
4 **looking at available information to see that it's doing**  
5 **what it's intended to do in terms of absorbing energy**  
6 **with consideration to seat back cases or seat system**  
7 **cases that they are absorbing energy in a manner**  
8 **consistent with how they are designed, in terms of**  
9 **occupant protection.**  
10 Q Would it be possible for a seat to be designed such that  
11 it absorbed energy but was also unreasonably dangerous  
12 because of the level of energy it did not absorb?  
13 **A Yes. I mean, if you go to an extreme end of that, if you**  
14 **get down to very little energy or no energy that it's**  
15 **absorbing, or a very little amount we will say, that's**  
16 **not reasonable as it relates to the world of crashes and**  
17 **what the government has expected out of us in terms of**  
18 **seat systems, I would consider that not to be a good**  
19 **design.**  
20 Q All right. Do you have any understanding of, or have you  
21 been provided with any information of what the legal  
22 standard for product defect is under Alabama law?  
23 **A Well, I would defer to you two on that.**  
24 Q Right. You haven't been provided any sort of -- any  
25 legal standard, correct?

Page 30

1 than it should be?  
2 **A Again, it depends on what you mean by should be.**  
3 Q Well, who defines how dangerous a vehicle should be?  
4 **A Again, I'm not understanding the context of the question.**  
5 Q So you just can't say one way or the other whether you  
6 agree with that statement?  
7 **A Well, again, I have my understanding of what -- how a**  
8 **vehicle performs in terms of -- in the context of what we**  
9 **are talking about seats, seat backs that, in my**  
10 **understanding, absorb energy and provide ride down for**  
11 **occupants are obviously doing as designed, absorbing the**  
12 **occupant's energy and mitigating injuries in doing so.**  
13 Q All right. Are not -- you use the terms "not defective"  
14 and "unreasonably dangerous." Are they the same thing?  
15 **A I don't know as it relates to the legal context, but**  
16 **certainly as it relates to my understanding about**  
17 **unreasonably dangerous. I certainly don't see something**  
18 **as being unreasonably dangerous that is doing what it's**  
19 **designed to do, which means that it's not defective in**  
20 **some context.**  
21 **But then there's, you know, people -- or things that**  
22 **are defective that are not necessarily unreasonably**  
23 **dangerous.**  
24 Q I understand the distinction. If it's unreasonably  
25 dangerous, it's defective, but not necessarily the other

Page 32

1 **A I don't know that I have. If I have, it's, again, not to**  
2 **my knowledge.**  
3 Q Would you agree that the term "unreasonably dangerous"  
4 as you have used it would be a hazard beyond an ordinary  
5 vehicle of its type?  
6 MR. MARTENSON: Object to form.  
7 THE WITNESS: I don't know. I would  
8 probably need to take a look at that in its context.  
9 Q (By Ms. Harris) Okay. Would you agree --  
10 **A What do you mean by hazard?**  
11 Q You don't know what hazard means?  
12 **A I have certainly an understanding of what a hazardous**  
13 **condition could be.**  
14 Q Okay. What about a safety issue?  
15 **A In the context of what?**  
16 Q Of seat performance.  
17 **A I would think that, you know, safety issues have to do**  
18 **certainly with, as it relates to seat performance, would**  
19 **have to do with issues of breaking apart in a manner that**  
20 **it wasn't designed, or doing something abnormal in a**  
21 **manner that it wasn't designed or intended. And**  
22 **sometimes those can rise to safety issues, sometimes they**  
23 **don't.**  
24 Q Okay. Would you agree with this statement, that a  
25 vehicle is unreasonably dangerous if it's more dangerous

Page 31

1 way around?  
2 **A No, there's probably the other way around as well as I'm**  
3 **thinking through all the global aspects of that.**  
4 Q Okay. What do you mean?  
5 **A Meaning something can be unreasonably dangerous and yet**  
6 **not defective depending on, you know, for example, it's**  
7 **put together and it's using it for an unintended purpose**  
8 **or something along those lines. We are probably getting**  
9 **into philosophical definitions.**  
10 Q You used the term which is why it's your number one  
11 opinion.  
12 **A Certainly, and as it relates to seat back performance.**  
13 **Obviously, when it comes down to being unreasonably**  
14 **dangerous, you want something to act in the manner very**  
15 **much like the Kia SL seat did.**  
16 Q If the seat performed in a way that was unreasonably  
17 dangerous, would you consider that to be defective?  
18 MR. MARTENSON: Object to the form.  
19 Vague.  
20 THE WITNESS: Again, it depends on the  
21 circumstances. And, unfortunately, I keep going back to  
22 the idea is it being used in a manner that is  
23 inconsistent with how it was designed.  
24 Q (By Ms. Harris) So you can't answer the question?  
25 **A Without considering the globalness of it?**

Page 33

9 (Pages 30 to 33)

1 Q Right.  
2 **A I apologize.**  
3 Q All right. Let's go back to I was asking you about when  
4 you formed your opinions about defect. I'm going to ask  
5 the same question about your opinion regarding  
6 unreasonably dangerous because you told me those are two  
7 separate things.  
8 **A Well, I told you --**  
9 Q You can't tell me they are the same.  
10 **A I opined on both of the terms. They could be the same**  
11 **for all intents and purposes in this particular instance,**  
12 **but they are not always the same.**  
13 Q Are they, in this instance?  
14 **A I don't know.**  
15 Q Okay. When did you form your opinion that the subject  
16 seating system was not -- is not unreasonably dangerous?  
17 **A I would think similar answers would apply to your**  
18 **questions concerning defect.**  
19 Q Okay.  
20 **A If you are going to ask.**  
21 Q And the answer was when?  
22 **A Evolving over the life of the case, and certainly**  
23 **memorialized and finalized at the time of my report.**  
24 Q Okay. Did you have an opinion about whether the vehicle  
25 was unreasonably dangerous before you had any

Page 34

1 he have?  
2 **A Oh, my understanding just in general?**  
3 Q Yes.  
4 **A Well, my understanding is that the kyphotic spine**  
5 **essentially was straightened out, so that was effectively**  
6 **my understanding of the injury production in terms of the**  
7 **mechanics.**  
8 Q Do you know whether he -- his injury was a hyperextension  
9 or a hyperflexion injury?  
10 **A Well, again, the motion is extension. With regard to**  
11 **hyper I will certainly defer to Dr. Banks on the**  
12 **definitions. But certainly it is motion that is an**  
13 **extension direction, which is straightening out and**  
14 **leaning back.**  
15 Q Do you know what other injuries besides the extension  
16 injury he had to his spinal cord?  
17 **A And your question was injuries, what other injuries?**  
18 Q Uh-huh.  
19 **A I know there was other injuries. I just couldn't tell**  
20 **you as I sit here without referring to Dr. Banks, which**  
21 **ones.**  
22 Q All right. But you don't have any independent  
23 understanding of any other injuries?  
24 **A It's not certainly something that I have studied for**  
25 **purposes of that question.**

Page 36

1 understanding of Mr. Crittenden's medical condition?  
2 **A Again, I don't know that I saw any indications of it**  
3 **other than, you know, trying to understand and evaluate**  
4 **the twist in the seat, which obviously I think addresses**  
5 **your question.**  
6 Q So you didn't believe the vehicle was unreasonably  
7 dangerous before knowing anything about his medical  
8 condition?  
9 **A Again, it wasn't something that I certainly had come to**  
10 **any final opinions on.**  
11 Q But you didn't -- well, your opinion was that it wasn't  
12 unreasonably dangerous. That's what you just told me.  
13 **A Certainly, in taking into account all of the information**  
14 **and doing all of the evaluation that I have done.**  
15 Q Right. But did you have an opinion about that before you  
16 had an understanding of his medical condition?  
17 **A I couldn't tell you.**  
18 Q You don't know?  
19 **A I don't know.**  
20 Q Okay. Do you have an understanding of -- and I'm not  
21 talking about his medical condition prior to the  
22 accident, but his injury and the biomechanics of his  
23 injury during the accident, and the resulting injury?  
24 In other words, do you know whether it was a  
25 hyperextension, a hyperflexion? What type of injury did

Page 35

1 Q Okay. You were sitting here for Mr. Blaisdell's  
2 deposition and he said he didn't know that there was a  
3 dispute about the nature of Mr. Crittenden's spinal  
4 condition prior to the accident. Do you remember that?  
5 **A I think so.**  
6 Q Okay. Do you know whether there is a dispute about that?  
7 **A I don't know what Mr. Kennett's knowledge is on that.**  
8 **And I don't know -- I don't know that I have seen any**  
9 **sort of a doctor hired by you guys in that regard.**  
10 Q Okay.  
11 **A So I couldn't tell you.**  
12 Q If it turns out that -- again, you know, we have got a  
13 number of depositions to be taken and there will be  
14 witnesses who come to trial who won't be deposed, but if  
15 it turns out there is in fact a dispute, will that affect  
16 your opinions?  
17 **A Well, certainly I will take that into account, as I**  
18 **normally take into account various evidence.**  
19 Q Okay.  
20 **A But certainly from a seat performance standpoint, I have**  
21 **opinions on how, you know, the manner in which it was**  
22 **loaded and type of forces involved.**  
23 Q Okay. That won't change -- that won't change your  
24 opinions about what happened -- what the seat did during  
25 the accident, it might change your opinions about how he

Page 37

10 (Pages 34 to 37)

1 was injured, correct?

2 **A I think it would -- it, again, would affect or go into my**

3 **analysis of how he might have loaded the seat.**

4 Q Okay.

5 **A In other words, I think you had asked earlier of his**

6 **medical condition versus his pre-impact position by his**

7 **own virtue, and it would tend to suggest that if somehow**

8 **somebody came in and he was -- and said he was straight**

9 **up and down, I would tend to think that, you know, the**

10 **straight up and down has to be positioned off to the left**

11 **to achieve the same damage. Does that make sense?**

12 Q Yes, it does. I understand that, and I appreciate that

13 distinction.

14 If -- well, we will come back to that. All right.

15 Assume one of the two medical conditions that you believe

16 when you talk -- when you talk about sort of the what did

17 you call it, exaggerated bending of the spine, curving of

18 the spine, is that how you phrased it? Yeah, the curve

19 of the spine in both directions, right?

20 **A Yes.**

21 Q Both forward and laterally, and that's -- you have heard

22 the term kyphosis, right?

23 **A Yes.**

24 Q And scoliosis is the lateral direction, right?

25 **A I would defer to Dr. Banks on that. I apologize.**

Page 38

1 Q What about the T1 and the T2 fusion that Dr. Banks says

2 he has, is that something that you had any independent

3 opinion about?

4 **A Did you say T1 and T2?**

5 Q I'm sorry. T1 to L2. T3 to L2. I marked through the T.

6 **A Understood.**

7 Q Go ahead.

8 **A You first.**

9 Q Do you have an opinion about the -- any independent

10 opinion about that?

11 **A It's not something that I have looked into other than**

12 **review of Dr. Sullivan's deposition and some of the**

13 **imagery that he put up.**

14 Q Okay. And if it turns out that Mr. Crittenden did not

15 have a fusion, would that affect your opinions?

16 **A Well, again, it affects the opinions insofar as the**

17 **flexibility that one has in interacting with the seat. I**

18 **would still be of the opinion that the seat was deformed**

19 **in a manner consistent with his motion and different from**

20 **the sled tests and, you know, some of the opinions that**

21 **I have on that subject, but how it relates to injury**

22 **production, I would defer to Dr. Banks on that.**

23 Q Okay. What I'm trying to figure out is whether -- if it

24 turns out that Mr. Crittenden did not have these

25 conditions as described by you from Dr. Banks, does that

Page 39

1 affect your opinions about whether the vehicle was

2 unreasonably dangerous?

3 MR. MARTENSON: Object to the form of

4 the question. It misstates the prior testimony.

5 THE WITNESS: And, again, from a seat

6 system evaluation standpoint, obviously, I think most of

7 my other evidence supports that opinion as opposed to his

8 condition.

9 Q Okay.

10 **A And, again, it gets back to the idea that one of my final**

11 **opinions is that I would think that a normal occupant,**

12 **one that does not have the fragile type condition that he**

13 **has, would do fine in this seat as it relates to this**

14 **particular accident circumstances, based in large part on**

15 **the amount of data that we have looked at to evaluate**

16 **that.**

17 Q Right. But that is assuming he has the condition. My

18 question is if he doesn't have the condition and he still

19 gets the injury, does that affect your opinion?

20 **A I wouldn't expect him to get the injuries if he doesn't**

21 **have some sort of a condition because the forces that we**

22 **have done and evaluated in the analysis of the seat**

23 **system show that it is lower forces than what you**

24 **would -- I guess what we have in terms of some of the**

25 **other analysis in terms of comparisons.**

Page 40

1 **And so I'm using that as a basis to understand the**

2 **forces that were likely imparted on Mr. Crittenden, which**

3 **I would think most -- and most of what we have evaluated**

4 **is that showing that it is, relatively speaking,**

5 **non-injurious forces.**

6 Q Okay. So you would have no explanation for how he gets

7 this injury if he doesn't have these conditions?

8 **A I would defer to Dr. Banks on that -- sorry.**

9 MR. MARTENSON: I was going to object

10 to it's beyond your testimony.

11 Q (By Ms. Harris) Go ahead.

12 **A I would defer to Dr. Banks on that as it relates to this,**

13 **and certainly, you know, as it relates to the kinematic**

14 **motion, I think there's going to probably be some**

15 **overlapping in understanding how that would maybe**

16 **translate into a nonconditioned condition, the question**

17 **that you are asking.**

18 Q (By Ms. Harris) Right. And what I'm trying to

19 understand is simply whether you would have an opinion --

20 well, whether you would have an opinion about the seat

21 performance and whether it's unreasonably dangerous if he

22 did not have this condition, if it turns out he did not

23 have the condition described by Dr. Banks?

24 **A Again, I would defer back to in terms of how I have**

25 **approached the case and what I have been asked to do in**

Page 41

11 (Pages 38 to 41)

1 terms of my analysis of the case and the seat system.  
2 Everything that I would suggest, and have evaluated,  
3 would suggest that it performed in a manner as expected,  
4 given the level of accident severity and the positioning,  
5 if you will, imparted by him somehow.  
6 Q Regardless of what his condition was?  
7 A Regardless, yes, ma'am. Obviously, the condition kind of  
8 helps us understand a pre-impact position.  
9 Q Okay.  
10 A But, again, I think you are asking, you know, assuming  
11 that is off the table then how else would you explain it,  
12 and I don't know at this point.  
13 Q All right. So are you critical -- you said that Mr.  
14 Crittenden was out of position, right?  
15 A Again, somewhat based on either his pre-impact  
16 positioning by his own voluntary manner or by his medical  
17 condition, such that the outboard side of the seat got  
18 loaded more than the inboard side.  
19 Q Are you critical of Mr. Crittenden For being out of  
20 position?  
21 A No, not necessarily. Obviously, that's one of the  
22 benefits of yielding seats is that it takes into account  
23 some flexibility on the positioning.  
24 Q Okay. Would he have received this injury if he had not  
25 been out of position as you say?

Page 42

1 of that.  
2 Q Okay. Let's -- here's Volume 1. Tell me everything in  
3 that volume that supports your opinion that most rear-end  
4 collisions result in little or no significant injuries to  
5 occupants?  
6 A Well, I could go through each one of these papers if  
7 you'd like.  
8 Q Does every paper support that?  
9 A No, I'm not saying that. I'm just saying that there are  
10 certain parts of various papers that do talk about that,  
11 which I thought was your question.  
12 Q It is.  
13 A These four volumes of reference materials that we have  
14 talked about, or certainly and I have talked about, have  
15 everything associated as we are able to collect with  
16 regard to seats. Some of them actually talk about injury  
17 mitigation, and others just talk about, you know, seat  
18 design.  
19 Q Right. Do you know that I'm here to ask your opinions  
20 and what you have to support them, and I need to know  
21 where in those materials, and we will go through all four  
22 of them, what literature supports that opinion.  
23 A Well, if I can refer you to a folder, there's a  
24 PowerPoint that we put together that talks about the  
25 benefits of yielding seats. And I think it was entitled

Page 44

1 A Again, I would defer to Dr. Banks on that. But, again,  
2 my evaluation as it relates to the seat back performance,  
3 assuming that he is receiving this injury as a result of  
4 simply straightening out, is that he's going to receive  
5 this injury almost regardless of what the seat does  
6 because it's the collision forces that are straightening  
7 him out and the seat's resistant to those.  
8 Q All right. You list a number -- on Page 17 of your  
9 report a number of --  
10 A Seventeen?  
11 Q Yes.  
12 A Last page?  
13 Q Yes. You say that as a result of the crash energy  
14 management most rear-end collisions result in little or  
15 no significant injuries to occupants of the struck  
16 vehicle.  
17 What do you base that on?  
18 A The body of literature that studies rear-end crashes, and  
19 in particular, all of the federal testing where they have  
20 instrumented dummies and understood the level of injuries  
21 that that instrumentation would predict.  
22 Q Okay. Where in your files is all that material?  
23 A I would defer or refer you to the reference material, the  
24 four volumes of reference material. And I would also  
25 refer you to the docket of material which has submissions

Page 43

1 yielding seats or --  
2 MR. MARTENSON: Is it going to be in a  
3 white or it's going to be in the folder?  
4 THE WITNESS: Yes, yellow.  
5 MR. MARTENSON: Okay. I will get it.  
6 Yielding seat info?  
7 THE WITNESS: Yes. The first one,  
8 huh?  
9 MR. MARTENSON: Yes.  
10 Q (By Ms. Harris) Okay. We will go ahead and mark that as  
11 Exhibit 23.  
12 (Exhibit No. 23 marked  
13 for identification.)  
14  
15 Q Before you talk about this PowerPoint, tell me did you  
16 put it together?  
17 A This was, I believe, Mr. Blaisdell had --  
18 Q Sorry.  
19 A May I have the folder as well?  
20 Q Sure.  
21 A Thank you. Mr. Blaisdell had put some of this stuff  
22 together, which in many respects put into a chronology.  
23 Q Right. He's done that for other cases.  
24 A He certainly has done this for some of our seats.  
25 Q Right. That's a PowerPoint he's produced in a number of

Page 45

12 (Pages 42 to 45)



1 cases, right?

2 **A I don't know.**

3 Q Okay.

4 **A I would defer to him on that. But this certainly goes**  
5 **through the -- some of the main -- what I would consider**  
6 **to be main references that are all contained in these**  
7 **four volumes as far as the benefits associated with the**  
8 **seat back relating to good occupant performance.**

9 Q That doesn't answer my question to any extent. Remember,  
10 we are talking about your opinions that most rear-end  
11 collisions result in little or no significant injury to  
12 occupants?

13 MR. MARTENSON: Object to form and  
14 comments of counsel.

15 Q (By Ms. Harris) How does that PowerPoint answer my  
16 question?

17 **A It steps through the chronology of understanding seat**  
18 **back deformation related to collision performance and how**  
19 **that benefits occupants to answer the question of little**  
20 **to no injury.**

21 Q Okay. So besides what Mr. Blaisdell put together, what  
22 else can you point to me -- point to to support your  
23 opinion about most rear-end collisions result in little  
24 or no injuries?

25 **A Again, there might be some other references in here, but**

Page 46

1 **memory has it, it was in the late '70s, early '80s,**  
2 **again, studying the same thing where dummies were**  
3 **instrumented in terms of evaluating the effects of the**  
4 **seat system performance in terms of NCAP level, N-C-A-P,**  
5 **level crashes.**

6 Q Other than your paper and Mr. Blaisdell's PowerPoint,  
7 what can you point me to to support your opinion about  
8 rear-end collisions resulting in little or no injury?

9 MR. MARTENSON: Again, object to the  
10 form. It doesn't list what he's earlier testified to.

11 Q (By Ms. Harris) Go ahead.

12 **A I think if you want the complete answer to that in terms**  
13 **of everything that I have at least here in this room on**  
14 **that, realizing I have talked about tests that are**  
15 **outside of this room, it --**

16 Q You identified two. You identified a paper and a  
17 PowerPoint. Identify for me everything else that you are  
18 using to support that opinion?

19 MR. MARTENSON: Ma'am, he also  
20 identified.

21 Q (By Ms. Harris) Go ahead. Just go ahead.

22 MR. MARTENSON: No. No. To comment  
23 on your statement --

24 MS. HARRIS: This is the second time  
25 I've asked you to stop speaking objections.

Page 48

1 **I would --**

2 Q You can't point to them?

3 MR. MARTENSON: Let him finish,  
4 please, ma'am.

5 Q (By Ms. Harris) I didn't mean to cut you off. Sorry.

6 **A I apologize. I would point to a number of the rear-end**  
7 **crash studies that the government has undertaken.**

8 Q Right here.

9 **A Pardon?**

10 Q You would point to them, so point to them. I need you to  
11 identify them for the record.

12 **A I don't know that I have all of them here. There was a**  
13 **number of studies done in the early to mid '90s**  
14 **referenced in the research, not only that myself has done**  
15 **but others have done in that regard, wherein the**  
16 **government had instrumented dummies and studied the**  
17 **effects of the seat performance. A lot of -- or at least**  
18 **the concept of them are talked about in my seat paper,**  
19 **which is actually Item No. 14 in this Volume 3.**  
20 **And it identifies some of the testing that the**  
21 **government has done in terms of evaluating that very**  
22 **thing.**

23 Q But you didn't bring any of the testing with you?

24 **A No, I apologize. There's a lot of it. In addition to**  
25 **that, I think that there was a set of studies -- if**

Page 47

1 MR. MARTENSON: No, you --

2 MS. HARRIS: That's twice.

3 MR. MARTENSON: No, you made a  
4 speaking comment that he had only identified two things,  
5 Ms. Harris, and that's not true.

6 MS. HARRIS: Well, he can tell me  
7 that.

8 THE WITNESS: That's what I was going  
9 to tell you.

10 Q (By Ms. Harris) Okay. Go ahead and tell me that.

11 **A I identified a number of tests that the government has**  
12 **run in the early to mid '90s.**

13 Q Okay. But you didn't bring those.

14 **A I have some of them identified in my paper that I**  
15 **identified for you as 14 in some of this material. There**  
16 **was a number of papers -- or a number of tests done in**  
17 **that time period that all had instrumentation. Those are**  
18 **publicly available, and they go through the**  
19 **instrumentation. They talk about how the dummies and the**  
20 **ATDs performed in those tests relative to the seat back**  
21 **deformation and yielding, so there's that group of**  
22 **information.**

23 Q Right. But I'm asking what you brought here today. You  
24 know that that's what I'm asking you, right?

25 **A No. I apologize. I thought you were asking me for**

Page 49

13 (Pages 46 to 49)



1 anything.  
2 Q No. I'm asking what you brought here today to support  
3 that opinion. And you have identified the Blaisdell  
4 PowerPoint and your paper.  
5 **A The Blaisdell PowerPoint certainly summarizes that in**  
6 **terms of a chronology that we discussed. My paper**  
7 **certainly talks about some of the available testing, or**  
8 **examples of the available testing that you and I just**  
9 **talked about.**  
10 I also identified for you that there was a series of  
11 tests done in the late '70s, early '80s at the --  
12 Q But you didn't bring that.  
13 **A I don't have those here, but I believe they are**  
14 **referenced somewhere in here on some of that issue.**  
15 And, again, I could go through each one of these  
16 papers if you would like and see if it identifies exactly  
17 what you are asking, but I would say there's a number of  
18 different references that do that.  
19 Q Okay. I need you to tell me what you brought today to  
20 support that?  
21 **A Okay. Did you want to stay on the record for this?**  
22 Q Yes.  
23 **A This might take a while.**  
24 Q Yes, please.  
25 MS. HARRIS: Okay. We can go off the

Page 50

1 3:25 p.m.)  
2  
3 MR. MARTENSON: Let me put it on the  
4 record. Are you finished, Mr. Witness, with reviewing  
5 the five or six volumes of literature you were asked  
6 to --  
7 MS. HARRIS: De, you don't get to ask  
8 him questions. I ask the questions.  
9 Q (By Ms. Harris) Are you finished, Mr. Stephens,  
10 reviewing or are you just taking another bathroom break,  
11 or a bathroom break?  
12 **A Yes, I'm going to take a bathroom break. I have done**  
13 **four of the volumes. The only other two were the NHTSA**  
14 **docket, and to a certain extent they are included in the**  
15 **four volumes as well.**  
16 Q How much longer do you think it will take because we are  
17 trying to --  
18 **A I would suggest now would be fine. I think I have**  
19 **included a number of different references.**  
20 Q Okay. Are you ready to go back on after your bathroom  
21 break?  
22 **A Yes, please.**  
23 MS. HARRIS: Okay. Go ahead and take  
24 a break. We might have a quick recess before that, but  
25 go ahead.

Page 52

1 record so he can change the tape.  
2 THE VIDEOGRAPHER: As we go off the  
3 record this is the end of media unit number one, and  
4 video time is 2:00 p.m.  
5 (Recess 2:01 p.m. to  
6 2:54 p.m.)  
7  
8 MR. MARTENSON: The plaintiff's  
9 attorney asked Mr. Stephens to -- said I want to see  
10 everything you are relying upon in summary to state what  
11 you stated on top of Page 17 of your report, most  
12 rear-end collisions result in little or no significant  
13 injuries to occupants of a struck vehicle.  
14 He referred to four or five volumes of material  
15 that's here, and she told him she wanted to -- him to go  
16 through each of these volume binders, which he's been  
17 doing now for a little over an hour, and that is part of  
18 the deposition. And she can say it's not, but it is.  
19 It's requiring him during this time period to work and  
20 look at what she requested for her deposition, and that's  
21 part of the deposition.  
22 MS. HARRIS: And I move to strike Mr.  
23 Martenson's colloquy as completely irrelevant, so let's  
24 go off the record.  
25 (Recess 2:55 p.m. to

Page 51

1 MR. MARTENSON: Now for the record let  
2 me state that this deposition began at 12:38 p.m. At  
3 1:46 p.m. the record will reflect that the plaintiff's  
4 attorney asked Mr. Stephens to refer to the last page of  
5 his expert report where it stated that most rear-end  
6 collisions result in little or no significant injuries to  
7 occupants of the struck vehicle, close quote, and she  
8 requested or demanded that he show in these four or five  
9 volumes of bound reference material everything that he  
10 relied upon to back up that statement.  
11 She stated, Let's stay on the record. It is now  
12 3:25 p.m. and he's just completed reviewing those  
13 materials. He has been at his witness chair this entire  
14 time reviewing these multi volume binders to respond to  
15 the attorney's questions. And that certainly is part of  
16 the time for the actual deposition, and responding to the  
17 maximum federal rule's time for the federal rule  
18 limitation on time spent in requiring a witness to spend  
19 nearly two hours looking at volumes of materials to  
20 answer the lawyer's questions. That's all we have.  
21 MS. HARRIS: Good speech. The record  
22 will reflect what it reflects. We are off the record  
23 again.  
24 (Recess 3:28 p.m. to  
25 3:31 p.m.)

Page 53

14 (Pages 50 to 53)

1  
2 THE VIDEOGRAPHER: As we go back on  
3 the record this is the beginning of media unit number  
4 two. The time is 3:29. Please proceed.  
5 Q (By Ms. Harris) Mr. Stephens you just spent  
6 approximately two hours going through your materials,  
7 correct?  
8 **A Yes, at your request.**  
9 Q And you reviewed every article that you brought; is that  
10 right?  
11 **A I certainly looked through them real quickly.**  
12 Q Real quickly?  
13 **A Yeah, meaning I kind of took a look at some of the**  
14 **beginning pages, a little bit through the data, and a**  
15 **little bit through the conclusion.**  
16 Q And you needed to that in order to answer my question  
17 which was, give me all of the supporting material for  
18 your opinion relating to your opinion that quote, most  
19 rear-end collisions result in little or no significant  
20 injuries to occupants?  
21 **A Well, if you recall, I responded to you indicating that a**  
22 **lot of that material is contained in these four volumes**  
23 **and I referred to them generically --**  
24 Q Right.  
25 **A -- or generically. And you, I interpreted, wanted me to**

Page 54

1 circumstances are addressed in the articles you are about  
2 to identify for me, okay?  
3 **A I think I understand you.**  
4 Q Okay. All right. So if you can answer my question.  
5 **A Which was what?**  
6 Q Identify all the materials you brought here today which  
7 support that opinion, that most rear-end collisions  
8 result in little or no significant injuries to occupants  
9 of a struck vehicle.  
10 **A Again, I will refer to my previous answer on that, and**  
11 **each one of those four volumes I went through to identify**  
12 **various papers that talk about the benefits of yielding**  
13 **seats.**  
14 Q Did you tab them or make a note?  
15 **A I attempted to, yes, ma'am.**  
16 Q Okay. We will just read those into the record.  
17 **A And then I think there probably --**  
18 Q Or if you noted it on there then that's fine too.  
19 **A No. I made a notation on the indexes as to which ones**  
20 **they were.**  
21 Q Okay. Let me see that. So you put a check by those?  
22 **A Yes.**  
23 Q And there are four binders for those?  
24 **A Yes, ma'am.**  
25 Q Okay. We have marked the first one?

Page 56

1 **specifically go through each one and identify which ones**  
2 **that complement that opinion.**  
3 Q Okay. And so you needed to look at every single one to  
4 do that?  
5 **A Again, if you wanted a specific answer to it, sure. I**  
6 **thought that my first answer was okay.**  
7 Q So yes, you needed to look at every single article?  
8 **A I felt that that's what you were asking, yes, ma'am.**  
9 Q Okay. Let's talk about your next opinion.  
10 MR. MARTENSON: Do you not want him to  
11 give you the answer, the documents that he relied on?  
12 MS. HARRIS: We will get to that in a  
13 just a second.  
14 MR. MARTENSON: Oh, okay. So he spent  
15 two hours getting the information you requested and now  
16 you don't want him to give it to you?  
17 MS. HARRIS: I want him to give me the  
18 answer, but I want to go through the next question so  
19 that we don't have to do this again.  
20 Q (By Ms. Harris) All right. Your next opinion says  
21 except under the certain -- except under certain  
22 circumstances, including the following, right?  
23 **A Yes, that is the statement.**  
24 Q And when you answered the question which I asked two  
25 hours ago, I want you to tell me whether those certain

Page 55

1 **A No, ma'am.**  
2 Q We haven't marked the first one?  
3 **A Not to my knowledge.**  
4 Q Okay.  
5 **A What we did mark was this PowerPoint which summarized the**  
6 **chronology.**  
7 Q Right. I just thought we marked one of those folders.  
8 MR. MARTENSON: Can we mark this  
9 Exhibit 23 on the outside we can keep it in the folder.  
10 I know you marked it on the inside but we can just  
11 duplicate it. Thank you.  
12 Q (By Ms. Harris) Just so that we don't get out of order  
13 here, I have marked you're billing records as Exhibit 24.  
14 (Exhibit No. 24 marked  
15 for identification.)  
16  
17 Q And your set of DVDs and photographs as Exhibit 25.  
18 (Exhibit Nos. 25 through 26  
19 marked for identification.)  
20  
21 **A And the DVDs are eight of them?**  
22 Q Yes. We will talk about those in a minute.  
23 All right. Let's mark your four binders as Stephens  
24 27.  
25 (Exhibit No. 27 marked

Page 57

15 (Pages 54 to 57)

1 for identification.)  
2  
3 MR. MARTENSON: Could you read what it  
4 is?  
5 THE WITNESS: Seat reference material  
6 volume one.  
7 Q Exhibit 28.  
8 (Exhibit No. 28 marked  
9 for identification.)  
10  
11 **A Seat reference material volume two.**  
12 Q 29.  
13 (Exhibit No. 29 marked  
14 for identification.)  
15  
16 **A Seat reference material volume three.**  
17 Q Exhibit 30.  
18 (Exhibit No. 30 marked  
19 for identification.)  
20  
21 **A And 30 is seat reference material volume four.**  
22 Q Okay. And you have noted in the indices of each of those  
23 the answer to my question before?  
24 **A Generally, yes, ma'am.**  
25 Q Well, when you qualify it -- you know that when you

Page 58

1 seat. And I also said that it was potentially related to  
2 the reconstruction.  
3 Q (By Ms. Harris) I'm sorry. Explain that last part?  
4 **A Meaning that there is some forces that are not purely**  
5 **longitudinal that would drive him one way or another in**  
6 **the seating system.**  
7 Q Okay. We will get back to the reconstruction in just a  
8 second, but are you telling me that it's either an offset  
9 or he's out of position?  
10 **A Or some combination.**  
11 Q Okay. All right. The second one you indicate here that  
12 the subject case is an example of the situation. What  
13 about the third, when the collision is sufficiently  
14 severe that the energy management system of the vehicle  
15 cannot moderate the collision forces to the body, is that  
16 in here?  
17 **A I believe that through our analysis that we have**  
18 **performed on this case that we have tended to indicate**  
19 **that the energy management systems present on the subject**  
20 **vehicle, and given the accident circumstances, would have**  
21 **acted in a manner to prevent those type of injuries,**  
22 **assuming all the other facts not to be the case.**  
23 Q Okay. So C doesn't apply to the facts of this case?  
24 **A Correct.**  
25 Q Okay.

Page 60

1 qualify something as generally I have to respond, what do  
2 you mean by generally?  
3 **A That it has information in there relative to answering**  
4 **that question.**  
5 Q Okay. And let's look at the next -- when say exceptions  
6 occur under certain conditions, including the following,  
7 and we can limit that last question to -- the first one  
8 is when the person is prepositioned in such a manner that  
9 the crash forces are applied to their body in an adverse  
10 manner.  
11 Does that situation apply to the accident scene or  
12 accident sequence in this case?  
13 **A Potentially, yes, ma'am.**  
14 Q What do you mean potentially?  
15 **A Meaning if he is offset off to the left as you and I have**  
16 **talked about.**  
17 Q Okay. But you don't know whether he's offset?  
18 **A Well, again, with the answers that I have previously**  
19 **stated --**  
20 Q Well, you think he's offset either because of his  
21 scoliosis or just by his own body positioning?  
22 MR. MARTENSON: Object to form.  
23 Misstates prior testimony.  
24 THE WITNESS: Obviously, it's one or  
25 the other is applying a load on the outboard side of the

Page 59

1 **A Again, notwithstanding the fact that he may be offset,**  
2 **which is limiting what the seat can do. That goes more**  
3 **towards one.**  
4 Q I gotcha. And then D doesn't apply, right?  
5 **A Not to my knowledge, in the way I have worded it.**  
6 Q Okay. So any of the articles that you have checked on  
7 the indices, do they relate or support your opinion for  
8 A?  
9 **A I'm sure some of them do, yes, ma'am.**  
10 Q You just read them all?  
11 **A Yes. And it's -- it's -- A is essentially dealing with**  
12 **the out of position.**  
13 Q Right. And which of those articles are you going to use  
14 to support your out of position opinion?  
15 **A I would defer to the four exhibits obviously that we**  
16 **talked about. They are pretty obvious. A lot of the**  
17 **ones that have actually studied out of position and how**  
18 **it's adversely affected by the rigidification of the**  
19 **seat.**  
20 Q Right.  
21 **A And then there's a number of them that have talked about**  
22 **high retention seats and how that affects. So I would --**  
23 **sincerely, a lot of them that I have actually marked**  
24 **actually are respondent to that.**  
25 Q Are any of the ones that you have not marked that you

Page 61

16 (Pages 58 to 61)

1 would use to support that position?  
2 **A I can't think of any off the top of my head.**  
3 Q You just looked at them?  
4 **A Right. I understand. There was a lot of them. I**  
5 **apologize.**  
6 Q What about B, are there any that you did not mark that  
7 you would use to support your position for letter B?  
8 **A I don't know that, again, having just gone through the**  
9 **articles that any of them really addressed predisposition**  
10 **to injury.**  
11 Q Okay. Did you bring any materials with you to support  
12 your position -- excuse me, your opinion for B?  
13 **A I think that there is a number of things with regard to**  
14 **my analysis. Again, under the assumption that**  
15 **straightening out is primarily responsible for the injury**  
16 **that would support B and, you know, to a certain extent**  
17 **if, again, you take the understanding and idea and**  
18 **concept that straightening out is also reflective in the**  
19 **research as well.**  
20 Q Well, is there any research that you are going to point  
21 to to rely on for your opinion in B?  
22 **A Again, under the assumption that straightening out is**  
23 **responsible for the injury, I would point to a number of**  
24 **the crash tests that are reflective not only in the**  
25 **research but the stuff that we have studied in this case.**

Page 62

1 MS. HARRIS: Yes.  
2 THE WITNESS: The extent and nature of  
3 the damage sustained by the driver's seat?  
4 Q (By Ms. Harris) Yes. That's supported by Mr.  
5 Blaisdell's test, right?  
6 **A There's two things, or actually probably three things.**  
7 **Number one, it's the seat strength that Mr. Blaisdell had**  
8 **performed on the subject seat, or I'm sorry, the exemplar**  
9 **seat.**  
10 **Number two, it's the testing performed by Kia at**  
11 **severe rear impact levels that show the containment and**  
12 **the force moderation.**  
13 **And then number three, if you take a look at the**  
14 **SAFE testing, which again shows greater deformation than**  
15 **what was performed in the Crittenden accident. It also**  
16 **shows, you know, relatively speaking, containment**  
17 **assuming proper dummy and belt positioning.**  
18 Q Anything else you are going to use to support that  
19 position?  
20 **A I think those are the three main ones.**  
21 Q Okay. And then we have a few more opinions, but we will  
22 come back to those in just a minute. Let's go back to  
23 your seat damage analysis. Were your measurements  
24 substantially the same as Mr. Meyer's?  
25 **A Where are you referring to?**

Page 64

1 Q Well, what decides the research?  
2 **A I would point us to some of the studies on the SAFE**  
3 **testing, the Kia testing, and then the Sebring testing**  
4 **that we have analyzed through this case.**  
5 Q How does the Kia testing in any way support position B?  
6 **A Again, with the idea in mind that if you are talking**  
7 **about a condition that where an occupant is starting in a**  
8 **forward hunched over area, the crash forces, again,**  
9 **notwithstanding the seat, are essentially straightening**  
10 **out the person.**  
11 **And assuming that that is playing a role in the**  
12 **injury production, that is happening in almost every**  
13 **crash test and in almost every stiffness range of seats.**  
14 **So what it does is it describes that motion that we see**  
15 **reflective in the crash testing.**  
16 Q All right. Let's keep going down your opinions. Your  
17 opinion related to the seat strength range, or seat  
18 strength from Mr. Blaisdell -- I just completely forgot  
19 his name -- from his testing, that supports your opinion,  
20 that third opinion, right?  
21 And I am going sentence by sentence.  
22 **A Third opinion meaning the seat?**  
23 Q No, sorry. I'm down on the next paragraph.  
24 **A Okay.**  
25 MR. MARTENSON: Under summary?

Page 63

1 Q Page 3 of your report. And when I say "measurements,"  
2 I'm really just talking about the deformation  
3 measurements.  
4 **A I believe some of them were. I would suggest certainly**  
5 **the starting position if you go to the table that's on**  
6 **Figure 25.**  
7 Q Right.  
8 **A The starting position of the accident seat, the recline**  
9 **angle at the end of the event, which is the plastic -- or**  
10 **the static position, and then the permanent deformation**  
11 **numbers there would be reflective of the Meyer position.**  
12 **The two values that you see there, in terms of**  
13 **maximum recline and dynamic deformation, I think would be**  
14 **somewhat different. Obviously, with regard to the 12**  
15 **degrees that Meyer suggests on dynamic, I believe if you**  
16 **add that to the 47 you are going to actually end up with**  
17 **a value for that one right above there something less**  
18 **than 60 degrees.**  
19 Q Okay. Walk me through that again. I was with you up  
20 until --  
21 **A You were doing good. I'm not sure that I would**  
22 **necessarily argue with the 12 degrees dynamic**  
23 **deformation.**  
24 Q Okay.  
25 **A But if you add that to the 47, you are effectively going**

Page 65

17 (Pages 62 to 65)

1 to be at just under 60 degrees, 59 to 60 degrees instead  
2 of 65 stated by Meyer.  
3 Q Okay. So you just think he did the math wrong?  
4 **A I don't know. It was just that this came right out of**  
5 **his report.**  
6 Q Okay. So what do you believe the true dynamic  
7 deformation -- I'm sorry, the maximum recline angle?  
8 **A I would think it would be about 59 to 60 degrees.**  
9 Q All right. Any other measurement or numbers with respect  
10 to the seat deformation that you believe are  
11 significantly different than Mr. Meyer's?  
12 **A No. I think the rest of them are pretty well known, so I**  
13 **think we are in agreement.**  
14 Q All right. When you did the de-trim with Mr. Meyer, you  
15 guys came up with a -- you agreed on the position of the  
16 seat as it's reflected in the scene photos, correct?  
17 **A The at scene documentation.**  
18 Q Right. And do you have any opinion as to whether that --  
19 that -- how the seat was immediately after the accident?  
20 In other words, do you believe anyone moved the seat  
21 between the time of the accident and those photos?  
22 **A No. And the reason I say that is essentially because**  
23 **that position, as reflected by the recliner position,**  
24 **seemed to correlate to an appropriate starting position.**  
25 Q Okay.

Page 66

1 a copy of it in here?  
2 **A I don't know. It might have been just sent back if I**  
3 **did.**  
4 Q I saw a correspondence which you were sent a protective  
5 order, and I just didn't know if you remember signing it?  
6 **A I don't have a memory, but I probably did if I was sent**  
7 **it.**  
8 Q Take a quick look through this.  
9 **A I don't see a protective order in here.**  
10 Q Okay. These legal documents, are there any of these that  
11 you relied on in forming your opinion?  
12 **A Not directly.**  
13 Q Let's talk about the design of the subject seat a little  
14 bit. You describe it as a high retention seat?  
15 **A Yes, ma'am.**  
16 Q What do you mean by that?  
17 **A Meaning that it has a higher strength perimeter frame**  
18 **that allows the body in the torso area to pocket into the**  
19 **center area.**  
20 Q And when you say "pocket," describe for me what you mean  
21 by that?  
22 **A Meaning the mid section of your body, lower to mid**  
23 **section are moving into the seat frame with enough**  
24 **movement, in terms of a forward to aft movement, where it**  
25 **constitutes some ability of the body to actually kind of**

Page 68

1 **A Which is that 20 and a half degrees at the top of that**  
2 **chart.**  
3 Q Okay. Just want to make sure that there's no -- that you  
4 are not going to say that you believe someone moved the  
5 seats, but that's where it was after -- immediately after  
6 the accident?  
7 **A Yes. And that was reflected in those numbers that we**  
8 **were just looking at.**  
9 Q Right. Do you have an opinion as to the position of the  
10 head restraint immediately before the collision?  
11 **A I don't know that I have studied that with any big**  
12 **analysis on that. There were -- there was a position**  
13 **that I documented in my inspection of the vehicle that**  
14 **reflected it was about two inches above the highest**  
15 **position. And so if it started off in the highest**  
16 **position, obviously it was moved an additional two inches**  
17 **as it was being bent.**  
18 Q But you had no evidence as to whether it was in the  
19 highest and whether it was in the middle or the lowest  
20 position?  
21 **A I did not study that; that is correct.**  
22 Q Okay. Did you sign a protective order in this case?  
23 **A I don't know. I could look through the legal documents**  
24 **if it would be in there.**  
25 Q Would you have signed it and put it in here, or just put

Page 67

1 **pocket or mechanically get almost stuck in there, if you**  
2 **will.**  
3 Q What design characteristics are required for a high  
4 retention seat?  
5 **A Usually, a higher strength perimeter frame. Obviously,**  
6 **Dr. Viano talked about that a little bit more, but**  
7 **generally you are talking about a perimeter type frame**  
8 **with a softer mid section that allows the body**  
9 **translational motion into it.**  
10 Q Is there a certain amount of translational motion that  
11 the seat must allow for it to be considered a high  
12 retention seat?  
13 **A If there is I don't know of any. I would have to review**  
14 **Dr. Viano's material.**  
15 Q You don't have any opinion on that, correct?  
16 **A Well, I would constitute necessarily any pocket, any**  
17 **movement into that mid section of the seat without**  
18 **corresponding rotation to be the effective pocketing.**  
19 Q Okay. So that's enough for it to be a pocketing for a  
20 high retention seat?  
21 **A Pocketing consistent with a high retention seat.**  
22 Q All right. This seat had an active head restraint,  
23 correct?  
24 **A Yes, ma'am.**  
25 Q Tell me what you believe the purpose of an active head

Page 69

18 (Pages 66 to 69)



1 restraint is.  
2 **A Again, in this initial motion, again, for low and**  
3 **moderate speed impacts, what it was designed to do or at**  
4 **least the concept was designed to do was provide the**  
5 **pocketing, or have the pocketing of the body, if you**  
6 **will, act in a manner to move the headrest in such a way**  
7 **where it would engage the head earlier in the crash to**  
8 **keep for low and moderate speed impacts better head and**  
9 **neck and torso alignment.**  
10 Q And this is -- you don't --  
11 **A In this particular design.**  
12 Q You don't characterize this crash as a low to moderate  
13 speed rear impact, do you?  
14 **A I don't.**  
15 Q Okay. So do you believe that the active head restraint  
16 was -- in any way played any role in the seat performance  
17 in this case?  
18 **A Well, what it does is that it tends to elevate the head**  
19 **restraint in such a way where it actually acts in a**  
20 **manner to help capture the occupant a little bit more.**  
21 **But, again, depending on his position, and I would defer**  
22 **to Dr. Banks on this, it may have some other effects, if**  
23 **you will, that might influence his kinematics.**  
24 Q Well, are you going to offer any opinions as to whether  
25 the active head restraint affected his kinematics in this

Page 70

1 **engaged or not engaged. There might be some damage on**  
2 **the little headrest guides, but I don't know that I have**  
3 **studied it to compare whether or not it engaged or**  
4 **disengaged.**  
5 Q Okay. You don't know of any forensic evidence at this  
6 point then?  
7 **A At this point, beyond the physics of the crash, no.**  
8 Q Okay. So you are going to leave -- well, do you have an  
9 opinion about whether the active head restraint did in  
10 fact mitigate the injuries in this case?  
11 **A Well, again, I would -- number one, I would leave the**  
12 **injuries to Dr. Banks.**  
13 **Number two, again, to the extent that it would have**  
14 **acted in a manner to moderate those, I think our crash**  
15 **severity is above and beyond what it was designed for, so**  
16 **I don't know that it was necessarily designed for this**  
17 **particular type of crash in terms of mitigation.**  
18 Q So do you have an opinion as to whether he would have  
19 received the same injury had there not been an active  
20 head restraint, or are you going to leave that to Dr.  
21 Banks?  
22 **A Again, if his injury, the one that we have been talking**  
23 **about most of the day, has to do with the effect of**  
24 **straightening out, I would think it happened regardless**  
25 **of the active head restraint.**

Page 72

1 case?  
2 **A No. I think what I was going to offer the opinion of as**  
3 **it relates to that active head restraint is that it**  
4 **reacted in a proper manner to move up and forward to**  
5 **better catch the head.**  
6 Q Was the active head restraint engaged when you found it?  
7 **A When I inspected it?**  
8 Q Yes.  
9 **A It was after the crash. No, it had gone back into a push**  
10 **down state, if you will.**  
11 Q So how do you know that it ever engaged?  
12 **A Again, from the standpoint of knowing the severity of the**  
13 **crash and my study of all of the available material**  
14 **showing how it interacts with the head, and then it gets**  
15 **to a point, in terms of seat back deformation, where the**  
16 **head and neck complex probably acted in a manner to bend**  
17 **it back into a nondeployed state.**  
18 Q But there's no forensic evidence to show whether or not  
19 it engaged or not?  
20 **A Well, again, based on my understanding of the crash**  
21 **physics I would think it would.**  
22 Q Right. But no forensic evidence on the head restraint  
23 itself or the seat?  
24 **A I don't know that I have studied it for that purpose, but**  
25 **I don't recall anything that would be a fingerprint as to**

Page 71

1 Q Okay. Do you know what other Kia vehicles have active  
2 head restraints?  
3 **A As I sit here, I don't. I have not made that study.**  
4 Q Do you know if any other non Kia brand vehicles have  
5 active head restraints that are similar in design, that  
6 you would consider to be similar in design?  
7 **A Well, first of all, without doing a specific study of the**  
8 **range of active head restraints, there's probably**  
9 **differences of design out there in terms of how they**  
10 **apply it. But, in general, the concept, many of the**  
11 **automotive manufacturers employed this concept of a**  
12 **beavered type of design, meaning you had to push in the**  
13 **mid section or somewhere in the mid section to be able to**  
14 **move and moderate the geometry of the head restraint.**  
15 Q Well, that's -- all active head restraints have that  
16 design, correct?  
17 **A No.**  
18 Q What's the other design?  
19 **A There are some that are deployable that are based off of**  
20 **an electronic sensing that's actually deployed forward.**  
21 Q Okay. So besides the electronic sensing and then the  
22 other more mechanical actuated design, are there any  
23 other designs for active head restraints?  
24 **A I think the other ones would be -- and I'm not sure if**  
25 **they would be considered active. They are accomplishing**

Page 73

19 (Pages 70 to 73)

1 the same feature by changing the geometry of the head  
2 restraint such that it engages the head earlier, which is  
3 again the whole reason for the concept.  
4 Q Okay. And how do those work?  
5 A Basically on geometry. Meaning, you put the head  
6 restraint either by design of the seat frame and/or the  
7 design of the head restraint itself you put it closer to  
8 the head so it engages earlier.  
9 Q Have you reviewed any design documents relating to the  
10 generation of the Sportage? I can't remember off the top  
11 of my head what -- but it's the generation after the SL.  
12 A I probably have seen some documents in my file that were  
13 produced on that. Was it the QL or something along those  
14 lines.  
15 Q That might be it. Did you make any attempt to analyze  
16 the seat performance of the QL seats?  
17 A I don't know that I have conducted analysis. I think  
18 there was some videos, if I remember right, that showed  
19 some performance information.  
20 Q Okay. And do those in any way affect your opinions in  
21 this case?  
22 A No, ma'am, at least not as I understand what I was asked  
23 to do.  
24 Q Okay. With respect to the restraints in this case, did  
25 the vehicle have a rear fired pre-tensioner in the seat

Page 74

1 if they are fired in such a way and such a timing and  
2 such a manner, depending on the occupant and depending on  
3 the severity it could take some slack out of the belt and  
4 start to limit it.  
5 Q That's the their whole goal, their purpose?  
6 A That's one of their purposes.  
7 Q Okay. Do you know of any other Kia vehicles that you  
8 consider to have similar seat structures?  
9 A I don't know that I have made that study.  
10 Q All right.  
11 A As we sit here.  
12 Q Have you studied any other Kia vehicles with respect to  
13 seat strength?  
14 A Well, they might be on some of our seat tests. That's  
15 the only way I would know to answer that as I sit here.  
16 MR. MARTENSON: You are referring to a  
17 document?  
18 THE WITNESS: I am referring to  
19 Exhibit 3 from Mr. Blaisdell, which is the listing of all  
20 of the seat tests.  
21 MR. MARTENSON: Okay. Thank you.  
22 THE WITNESS: There's a 2010 Kia  
23 Forte, F-O-R-T-E.  
24 Q (By Ms. Harris) What was the seat strength of that  
25 vehicle?

Page 76

1 belt?  
2 A What does that mean? You mean rear impact fired?  
3 Q Yes.  
4 A Oh, I apologize.  
5 Q Well, that's my understanding of what they are, if  
6 there's something that you know that I don't, you know,  
7 you can explain that.  
8 A No. I don't know that I have studied that for this case.  
9 Q Do you know whether the vehicle had that?  
10 A I don't know.  
11 Q Do you believe that rear fired pre-tensioners help  
12 prevent ramping, rear impact?  
13 A I would probably have to study some of my testing on  
14 that. We have testing where we have rear impact fired  
15 pre-tensioners. I can't think of a study where we have  
16 actually studied non and rear impact fired to make that  
17 comparison.  
18 Q So you have never offered any opinions in any case  
19 relating to whether rear fired pre-tensioners help  
20 prevent ramping?  
21 A They can help, I believe, but I don't know that I have  
22 made that study to be able to quantify that.  
23 Q Okay. You base that -- you haven't done any studies on  
24 that, but you believe they do help?  
25 A It was based in -- that answer was based on concept, that

Page 75

1 A It appears to be 27,552 in terms of inch pounds. There's  
2 the 2007 Kia Spectra and that was indicated to be 35,140  
3 inch pounds. There's the Kia Sportage in our particular  
4 case that we discussed at 41,654. There's the 2006 Kia  
5 Rio indicated to be 26,810 inch pounds. There's the 2015  
6 Kia Soul which is indicated to be 23,702 inch pounds.  
7 MR. MARTENSON: How much?  
8 THE WITNESS: 23,702. By the way, is  
9 this responsive to your question going through?  
10 Q (By Ms. Harris) Yes.  
11 A Okay. There's the Kia Rondo which is indicated to be  
12 22,596 inch pounds. The Kia Optima which is indicated to  
13 be 19,768 inch pounds.  
14 Q What model year is that, the Optima?  
15 A It indicates on here 2014.  
16 Q Okay.  
17 A There's a 2006 Kia Optima that is 18,620 inch pounds.  
18 There is a '95 Kia Sephia indicated to be 14,000 inch  
19 pounds. Sephia is S-E-P-H-I-A. There's a '98 Kia Sephia  
20 that's indicated to be 11,970 inch pounds. There's a  
21 2004 Kia Sedona indicated to be 11,774 inch pounds. A  
22 '98 Sportage indicated to be 11,200 inch pounds. And  
23 that's it on this list.  
24 Q And based on those seat strengths, is it your opinion  
25 that any of those vehicles are defective?

Page 77

20 (Pages 74 to 77)

1 **A I don't know that I have studied each one of them.**  
2 Q Okay. Can you make an assessment based simply on the  
3 numbers from that graph and that spreadsheet?  
4 **A Again, without knowing something about what we are**  
5 **studying, I don't know that you can necessarily make**  
6 **those assumptions. It seems like, given the time frame**  
7 **for all of those, those are all fairly respectable**  
8 **numbers as it relates to strengths.**  
9 Q Okay. Based on those numbers alone, can you say that  
10 those vehicles are not defective with respect to seat  
11 performance in a rear collision?  
12 **A I don't know that I can make that at this point in time,**  
13 **but, again, the numbers seem to be relatively respectable**  
14 **given their time frame.**  
15 Q All right. Have you made any assumptions about Mr.  
16 Crittenden's weight at the time of the accident?  
17 **A I have an indication in my report that indicates that he**  
18 **was at least 230 pounds. And I understand from some of**  
19 **the discovery that there were values pushing it right**  
20 **around 250 pounds.**  
21 Q Okay. Well, an occupant's weight is always a factor in  
22 your analysis of a seat performance, correct?  
23 **A It can be, yes.**  
24 Q Okay. Give me an example when it would not be a factor  
25 in your analysis.

Page 78

1 **A I think I saw something indicative of something close to**  
2 **like 249 or 250 pounds.**  
3 Q Do you have an opinion as to what Mr. Crittenden's weight  
4 was? When you say at least, you mean 230 or more?  
5 **A Yes.**  
6 Q Do you believe that it was more than 230?  
7 **A I would defer to others probably closer to understanding.**  
8 Q Like Mr. Crittenden?  
9 **A Well, I would certainly defer to Dr. Banks and his review**  
10 **of all the records.**  
11 Q Would you defer to Mr. Crittenden?  
12 **A Mr. Crittenden probably would have some information on**  
13 **that I would think.**  
14 Q Okay. You refer to -- you reference excessive weight on  
15 Page 8 of your report. What do you mean by excessive?  
16 **A Just above the 95th percentile as it relates to the**  
17 **demands on the seat system.**  
18 Q Anything below the 95th percentile is not excessive?  
19 **A I don't know that I would necessarily make that**  
20 **distinction.**  
21 Q What is the 94th percentile?  
22 **A I think it's -- I probably would have to look up the**  
23 **values, but I think it's about 220 or a little bit more**  
24 **than 220.**  
25 Q And that's based on -- who comes up with these

Page 80

1 **A And, again, are you referring to just rear impacts just**  
2 **in general?**  
3 **I don't know that once you get below a fifth**  
4 **percentile that it starts to have a meaningful effect on**  
5 **very rigid seats where you can tell differences.**  
6 Q But you always want to know the occupant's weight when  
7 you are assessing or analyzing a seat performance during  
8 a rear impact, correct?  
9 **A It certainly can be important, yes, ma'am.**  
10 Q Okay. Do you always ask for the occupant's weight to --  
11 can you determine whether a seat was defective or can you  
12 analyze the performance of a seat without knowing the  
13 occupant's weight?  
14 **A I think most of the time we are in need of an**  
15 **understanding of the occupant's weight. And in a number**  
16 **of respects we are in need of understanding the weight**  
17 **distribution in some way shape or form.**  
18 Q Okay. You mentioned -- okay. So do you have an  
19 opinion -- strike that.  
20 Did you make an assumption about his weight?  
21 **A Again, most of it was -- came from either the medical**  
22 **records or the doctors and specifically Dr. Banks.**  
23 Q Okay. And your assumption was 230 pounds, correct?  
24 **A At least 230, yes, ma'am.**  
25 Q And why do you say at least?

Page 79

1 percentiles?  
2 **A The U.S. Government.**  
3 Q Okay. And --  
4 **A And then there's usually some research studies that will**  
5 **oftentimes go off of those.**  
6 Q Okay. So that's where -- that's where you get the  
7 numbers and that's how the dummies are sort of  
8 classified?  
9 **A Manufactured and classified, yes, ma'am.**  
10 Q Right. And so if Mr. Crittenden had been 215 pounds,  
11 would you have used the word excessive weight on Page 8?  
12 **A I don't know. My suspicion is that I would indicate that**  
13 **to be more of a heavier weight, but, again, that's not**  
14 **having studied and known all of the different**  
15 **circumstances.**  
16 **In other words, I would think that if he were a**  
17 **smaller weight, everything else being the same, the seat**  
18 **deformation would be less.**  
19 Q Are you critical of Mr. Crittenden for his weight?  
20 **A No.**  
21 Q Okay.  
22 **A No. Again, it's just part of the body weight**  
23 **distribution that I was talking about as it relates to**  
24 **Mr. Meyer's test, I think, in the context of that test.**  
25 Q What do you know about Mr. Crittenden's weight

Page 81

21 (Pages 78 to 81)

1 distribution? Was he heavy around the middle? Was he  
2 built up top?  
3 **A Well, I don't know anything. I would defer to Dr. Banks**  
4 **one the subject of the weight distribution relative to**  
5 **his medical records, but what I was talking about was Mr.**  
6 **Meyer's testing utilizing a 50th percentile.**  
7 Q Right. But I'm just -- you are relying on Banks for your  
8 assumption for the weight distribution because you have  
9 no other evidence to rely on, right?  
10 **A That's correct.**  
11 Q Okay. All right. Then the bottom of Page 8 after  
12 referring to the excessive weight you have a calculation  
13 that Mr. Crittenden imparted a peak force of nearly 1.5  
14 tons to the subject Kia seat back. How did you come up  
15 with that number?  
16 **A That was effectively taking approximately two thirds to**  
17 **70 percent of his body mass and then multiplying it times**  
18 **the effect of 19G peak that the vehicle underwent.**  
19 Q Okay. And do you have that calculation in your file  
20 anywhere besides just the result here?  
21 **A No. It was just a simple calculation that I did.**  
22 Q As you were writing your report?  
23 **A Yes.**  
24 Q All right. So 70 percent of his body weight multiplying  
25 by peak force of 19G, anything else that went into that

Page 82

1 **A I think Mr. Hoover's report has a diagram that would**  
2 **clear it up for both of us.**  
3 Q Right.  
4 **A Yes, I believe it would be more on the driver's side on**  
5 **the Tahoe striking it.**  
6 Q And how does that offset, or how did that offset affect  
7 the occupant kinematics, if any, during the collision?  
8 **A Well, again, if there's rotation involved as he seems to**  
9 **indicate in a couple of his figures here, if you have**  
10 **rotation during the impact that may change the direction**  
11 **that the occupant interacts with the seat.**  
12 Q Okay. Can you quantify the amount of rotation involved?  
13 **A I would defer to him on that.**  
14 Q Do you believe that Mr. Crittenden would have received  
15 the same injuries had there been no rotation involved?  
16 **A I would defer to Dr. Banks on that. But my suspicion,**  
17 **again, given the forces involved and the effect of**  
18 **straightening on Mr. Crittenden would suggest not -- or**  
19 **would suggest that he would.**  
20 Q That his injury would be different?  
21 **A Would happen regardless.**  
22 Q Okay. Going back through your crash analysis -- or  
23 damage analysis, excuse me, at the bottom of Page 3, you  
24 say "The driver's seat," and this is the last paragraph.  
25 **A Yes, ma'am.**

Page 84

1 calculation?  
2 **A No, ma'am.**  
3 Q Do you believe a vehicle should be designed to withstand  
4 that peak force of 1.5 tons?  
5 **A A vehicle?**  
6 Q Yes.  
7 **A Well, the vehicle, I believe, if I understand your**  
8 **question, withstands much more than that. I would need**  
9 **to go defer to Mr. Hoover on those calculations because I**  
10 **believe he had calculated the force and the energies in**  
11 **the crash --**  
12 Q Right.  
13 **A -- on the vehicle as a whole.**  
14 Q Do you believe that -- well, you say in here this was an  
15 offset impact. Is that based on Mr. Hoover's testimony?  
16 **A As well as my own personal observation of the vehicles at**  
17 **the inspection.**  
18 Q And it was offset to the right?  
19 **A Yes, I believe that is correct. As it relates to the**  
20 **Sportage, correct.**  
21 Q Right. And -- well to both?  
22 **A I think it would be to the left on the --**  
23 Q Right.  
24 **A Let me -- let me -- oh, sorry.**  
25 Q No. You go ahead and clarify so the record is clear.

Page 83

1 Q "The driver's seat as found was firmly attached to the  
2 vehicle."  
3 When you say "as found," what do you mean? As you  
4 first found it when you inspected the vehicle last year?  
5 **A Yes, ma'am.**  
6 Q Okay. And Mr. Blaisdell testified earlier today about  
7 the deformation in the SAFE testing seat versus the  
8 deformation found in our seat, and I believe he  
9 quantified it. Did you make any independent analysis or  
10 a calculation about the difference in the deformation in  
11 the two seats?  
12 **A Between the SAFE tested seat and the subject Crittenden**  
13 **seat?**  
14 Q Uh-huh.  
15 **A Apart from that summary of angles, and apart from the**  
16 **photographs that we have available to us, no.**  
17 Q Well, I believe he testified that it was a difference of  
18 eleven degrees, is that what he said?  
19 **A Let me check for you.**  
20 Q I just want to make sure that's your opinion as well. So  
21 I guess the question is, what's the difference in the  
22 seat deformation from the SAFE seat versus the accident  
23 seat?  
24 **A At the end of the deformation, if you look at Figure 25,**  
25 **and you subtract 39 from 24, I believe you are going to**

Page 85

22 (Pages 82 to 85)



1 get upwards of 15 degrees. And I seem to remember he  
2 said about 15 or 16, but I wasn't sure.  
3 Q Okay. We marked your inspection photographs earlier, I  
4 believe, as Exhibit 25. And it's a collection of eight  
5 DVDs. If you can just tell me what are on those DVDs.  
6 A Exhibit 25 has -- have seat or have Kia Sportage, the  
7 Chevy Tahoe, the seat inspection, and the SAFE tested  
8 seat inspection photos, as well as video from the seat  
9 inspection, and I believe the SAFE inspection.  
10 Q Okay. And do those DVDs include all of your photographs  
11 and videos from your inspections?  
12 A They seem to. The only ones that I don't necessarily see  
13 in here are exemplar seat photos that were indicated  
14 before that are in that black binder that you are looking  
15 at.  
16 Q Do you have those electronically?  
17 A I probably do. I apologize. I didn't bring them.  
18 Q The exemplar seat inspection, did you do that -- that was  
19 not -- strike that.  
20 Was that the seat that was tested?  
21 A No, ma'am.  
22 Q You inspected an exemplar seat at SAFE back in April when  
23 you did the de-trim, right?  
24 A I wasn't there for that. It was Mr. Blaisdell. Oh, did  
25 you say back at Weil?

Page 86

1 A Yes.  
2 Q When do you do those? Do you do those as soon as you  
3 come back from the inspection or as you are preparing for  
4 your report?  
5 A No. At the time of my inspection I have an iPad where I  
6 was taking photos and then writing notes and doing  
7 measurements.  
8 Q Okay. What are the notes in the back?  
9 A I believe those are test notes for the CRA tested seat,  
10 the body block test.  
11 Q Were you there for the body block test?  
12 A I was not.  
13 Q So when did you take those notes?  
14 A These are not my notes.  
15 Q Okay.  
16 A These are --  
17 Q Are those Mr. Blaisdell's?  
18 A Either Mr. Blaisdell's or Mr. Sam White, which is an  
19 engineer down in our southern office.  
20 Q Okay. Anything else in that binder that we haven't  
21 identified?  
22 A I think we have identified most of it, yes.  
23 Q Okay. Most of it? Did we identify all of it?  
24 A I'm not sure if we identified the photographs of the SAFE  
25 seat inspection afterwards -- or I'm sorry, the CRA seat,

Page 88

1 Q Uh-huh.  
2 A I apologize. Yes, I did.  
3 Q Okay.  
4 A And I think if you go a couple tabs before that there  
5 should be those inspection photos.  
6 Q Did you find your exemplar to be the same as the exemplar  
7 you inspected at Weil?  
8 A Yes.  
9 Q This notebook that I am attaching as Exhibit 31, titled  
10 "CRA Inspection," looks like it has the inspection  
11 photos -- printouts of the inspection photos on Exhibit  
12 25, right?  
13 A Yes, ma'am.  
14 Q And, in addition, it has inspection photos from the  
15 exemplar seat that you got?  
16 A Yes, ma'am.  
17 Q And then it has some notes in the back?  
18 A As well as in the front, yes.  
19 (Exhibit No. 31 marked  
20 for identification.)  
21  
22 Q Okay. Are these typewritten notes, were they done by  
23 you?  
24 A Yes.  
25 Q Same with the handwritten notes?

Page 87

1 tested seat inspection after we had the seat sent up here  
2 and I personally inspected it up here, so we have some  
3 photographs associated with that back here in the back as  
4 well.  
5 Q Okay. Did you make any notes?  
6 A No.  
7 Q All right. Now you have a section of your report where  
8 you talk about Mr. Meyer's test, the SAFE test, and it  
9 appears to be the same or at least substantially similar  
10 to Mr. Blaisdell's report; is that fair?  
11 A A good majority of it is, yes, ma'am.  
12 Q You have several criticisms of the test, right?  
13 A Yes, ma'am.  
14 Q And they are the same as Mr. Blaisdell's, correct?  
15 A Certainly there's some similarities, yes, ma'am.  
16 Q Okay. Are there any differences in your criticisms?  
17 A Without holding the two reports up to each other and  
18 comparing, I suspect there's not much difference.  
19 Q Well, you heard him testify today. Was there anything  
20 you disagree with with respect to his criticisms?  
21 A No.  
22 Q Is there anything you would add?  
23 A I think that there was some discussion about -- I think  
24 you had asked him about ramping as it relates to what we  
25 know from the SAFE test, which I think he identified for

Page 89

23 (Pages 86 to 89)



1 you being about eleven inches or so --  
2 Q Uh-huh.  
3 A -- to the ramping seen in the Kia testing. And I think  
4 that with regard to that range, I would think that based  
5 on the seat back deformation that we observed on the  
6 Crittenden seat as it relates to the performance seen to  
7 Mr. Meyer's test, I would think that would be closer to  
8 towards the bottom of the ramping, if you will. I  
9 believe you had asked him where in that range.  
10 Q Right. So do you have an opinion as to how much Mr.  
11 Crittenden ramped during this accident?  
12 A Not specifically, but, again, I would defer to Dr. Banks  
13 in terms of any surrogate type of work in that regard and  
14 relationships to injury, but relative to the seat back  
15 performance, I would think it would be more towards the  
16 lower end of that as it relates to the ramping.  
17 Q Okay.  
18 A Given the fact that, you know, I have analyzed, as well  
19 as Mr. Blaisdell analyzed the mispositioning of the belt  
20 that you guys discussed earlier.  
21 Q Okay. Well, you are the engineer. What's half between  
22 eleven and three?  
23 A Half -- well, eleven and four?  
24 Q Eleven and four.  
25 A It would probably be about six to seven.

Page 90

1 A That's -- obviously, that affects the -- in terms of the  
2 material and the effect on the belt the slippage, but the  
3 mispositioning of the belt means that with regard to it  
4 starting up on top of the material and sitting loose  
5 allows the dummy to ramp up higher than it otherwise  
6 would if it had been properly positioned.  
7 Q Okay. So were those your two criticisms of the position  
8 of the belt?  
9 A Is the slippage and the mis- -- the wad of material, if  
10 you will, that created excess slack.  
11 Q And do you have an opinion as to how much excess slack  
12 was created?  
13 A Enough to allow quite a bit of ramping that we had just  
14 discussed.  
15 Q Five inches?  
16 A I think it was upwards of eleven inches, if I remember  
17 right.  
18 Q No, no, excess slack. How much excess slack?  
19 A Oh, in the belt? I don't know that I have studied that  
20 specific number.  
21 Q Well, do you have a general number?  
22 A I don't, not without doing some more work.  
23 Q Would it have been five -- do you believe more likely  
24 than not it would have been five inches of excess slack?  
25 A I don't know.

Page 92

1 Q Okay. So it's your opinion that Mr. Crittenden ramped  
2 less than six inches?  
3 A I don't know that I would necessarily rule out six at  
4 this point in time, but I would defer to Dr. Banks on  
5 specifics.  
6 Q Would it be somewhere between six and four?  
7 MR. MARTENSON: Object. Asked and  
8 answered.  
9 THE WITNESS: Again, I would defer to  
10 him on the specifics. I related it to the specific  
11 deformation to the seat. I would think that, again, if  
12 you would just take the deformation of the seat it's  
13 going to be less than that, but the important --  
14 Q (By Ms. Harris) Less --  
15 A -- less than half.  
16 Q Less than six?  
17 A Which is what you indicated. The problem is that you  
18 would have to understand the mispositioning effect of the  
19 belt, and I would defer to him on that.  
20 Q Okay. The mispositioning of the belt, I think Mr.  
21 Blaisdell categorized that as the belt being -- well, did  
22 you classify the plate that bridges the gap as a  
23 mispositioning of the belt?  
24 A No.  
25 Q That's different?

Page 91

1 Q Could it have been five inches of excess slack?  
2 MR. MARTENSON: Object. Asked and  
3 answered.  
4 THE WITNESS: I don't know without  
5 doing some more studies.  
6 Q (By Ms. Harris) More likely than not, was it less than  
7 two inches of excess slack?  
8 MR. MARTENSON: Object. Asked and  
9 answered.  
10 THE WITNESS: Again, I haven't studied  
11 that at this point in time.  
12 Q (By Ms. Harris) Okay. You just know -- you just believe  
13 more likely than not excess slack, period?  
14 A Which affected the ramping, yes.  
15 Q And presumably, if you don't know how much excess slack,  
16 you don't know how much additional ramping that allowed,  
17 correct?  
18 A Well, we do know from the Kia testing how much ramping is  
19 allowed there in terms of -- or what is normal ramping,  
20 if you will. Obviously, with regard to that performance,  
21 I would expect similar performance if you take into  
22 account the increased severity imparted on the seat.  
23 Q Again, I was with you up until that last part. If you  
24 take into account the increased severity?  
25 A Yes.

Page 93

24 (Pages 90 to 93)

1 Q Because he ramps more?  
2 **A No, because the crash -- he's putting more force on the**  
3 **seat and the seat is deforming that much more, so that --**  
4 Q Which -- oh, go ahead.  
5 **A I apologize.**  
6 Q You go ahead.  
7 **A But that obviously acts in a manner to continue to change**  
8 **the geometry, and continue to put additional load on the**  
9 **belt that affects his ability to climb up the seat.**  
10 Q Okay. When you say "the unusual belt positioning," is  
11 that the same thing as mispositioning of the belt?  
12 **A Yes.**  
13 Q That's the excess slack from the wad of clothing?  
14 **A Well, and this also seemed to also take into account the**  
15 **slippage down on the thighs.**  
16 Q Okay. And that was my question earlier. I'm trying to  
17 understand when you say "unusual belt positioning,"  
18 whether that refers to the clothes or does that also  
19 refer to the plate, the metal plate?  
20 **A Both.**  
21 Q You said "The unusual belt positioning appears to account  
22 for a substantial part of the additional seat back damage  
23 that was present."  
24 When you say "a substantial part," that leads me to  
25 believe that there was some other factor that went into

Page 94

1 Q Okay.  
2 **A And then I think by that statement I would also take into**  
3 **account and refer to the same set of tests that you and I**  
4 **were speaking of earlier, insofar as the government**  
5 **testing where they have instrumented the dummies showing**  
6 **little to no effect of injury outcomes on those.**  
7 Q And where in your files is that government testing you  
8 are referring to?  
9 **A I would refer back to my paper for sure. I documented a**  
10 **number of tests, but it was in that section of 301 type**  
11 **testing where they instrumented the dummy back in the**  
12 **early to mid '90s.**  
13 Q Right. Other than your paper, point to me what  
14 government testing you are referring to with respect to  
15 your opinion.  
16 **A I would say my paper and the tests that it references and**  
17 **the other tests.**  
18 Q But you didn't bring those tests today, the tests that  
19 your paper references?  
20 **A No, I didn't.**  
21 MR. MARTENSON: That's your SAE paper?  
22 THE WITNESS: Yes, it is.  
23 Q (By Ms. Harris) Other than your SAE paper that your  
24 lawyer nicely pointed out that was your SAE paper,  
25 anything else you can point to to support that last

Page 96

1 the additional seat back damage, so what would that be?  
2 **A Probably some differences in the dummy versus Mr.**  
3 **Crittenden's distribution and interaction.**  
4 Q Do you know whether there were any differences between  
5 the dummy's distribution and Mr. Crittenden?  
6 **A I would defer to Dr. Banks on that.**  
7 Q All right. On the next page you have a heading that  
8 says, "Responses to Steve Meyer's report and deposition  
9 testimony." And then I think the last sentence in that  
10 paragraph you say, "Similar tests that he and others have  
11 conducted on vehicles with automated seats that have half  
12 the strength of this seat show dummy kinematics and  
13 interaction with the vehicle interior that is more  
14 severe, yet with head, neck, and chest accelerations and  
15 forces that do not predict likelihood of a serious  
16 injury."  
17 What tests are you referring to?  
18 **A Those are some of the tests that we referred to earlier,**  
19 **certainly Mr. Blaisdell's testimony the Gueffroy, which**  
20 **is G-U-E-F-F-R-O-Y, I believe, set of sled tests where**  
21 **Mr. Meyer had instrumented the dummy and measured those**  
22 **forces.**  
23 Q Okay. And those are in one of the exhibits that we have  
24 already marked?  
25 **A Yes, ma'am.**

Page 95

1 opinion we just talked about?  
2 **A I think a number of the tests that, again, you have**  
3 **previously marked and --**  
4 Q Which ones?  
5 **A Exhibit 19.**  
6 Q Which tests support that opinion besides the one you just  
7 told me about?  
8 **A Again, just tests that where dummies were instrumented on**  
9 **conventional yielding seats that show essentially good**  
10 **performance over a wide range of severities tend to**  
11 **support that point.**  
12 Q Okay. Which tests are you referring to?  
13 **A I would just defer to the tests.**  
14 Q You can't point to one?  
15 **A I could point to the Audi test that we talked about.**  
16 Q Okay. Any other ones?  
17 **A If you look at Exhibit 19, there's an Infiniti test in**  
18 **Exhibit 19 that has a front conventional yielding seat**  
19 **that shows good performance. I believe the Rich,**  
20 **R-I-C-H, tests also tested a conventional seat in**  
21 **comparison to the more rigid seat and found good**  
22 **performance as far as the IARVs.**  
23 And I believe in my report binder, the red binder  
24 that's in front of you, there was an image that was also  
25 in my report showing the two dummy interactions of the

Page 97

25 (Pages 94 to 97)

1 one a conventional seat and one a rigid seat showing good  
2 performance in the yielding section. That was this off  
3 angle oblique impact.  
4 Q Is that Figure 26 in your report?  
5 A I think it's Figure 27.  
6 Q Okay. Any other tests you can point to for that opinion?  
7 A Certainly those are the ones that come to mind. I think  
8 in my paper I referenced those tests that we were just  
9 talking about in terms of the federal 301 tests. I can  
10 read off a couple of the references for you.  
11 Q I was just wondering what you brought with you today.  
12 That's your paper.  
13 A Well, the paper obviously by reference --  
14 Q Right.  
15 A -- we studied those tests.  
16 THE VIDEOGRAPHER: Mr. Stephens, can  
17 you please raise your microphone?  
18 THE WITNESS: Oh, I'm sorry.  
19 THE VIDEOGRAPHER: Thank you.  
20 THE WITNESS: See, even your  
21 microphone is getting tired.  
22 Q (By Ms. Harris) I'm getting tired.  
23 A It was references No. 27, 28, and I believe 29.  
24 Q In your paper?  
25 A Yes. Where they referenced tests done by the government

Page 98

1 Q Okay. Are you critical of the type of dummy used,  
2 standing pelvis?  
3 A In and of itself, no.  
4 Q You qualified that.  
5 A Meaning that if you position it properly and utilize the  
6 proper type of interactions, as far as belt and restraint  
7 and geometry, and positioning, I think, you know, it  
8 provides another tool.  
9 I think there's publications indicating out there  
10 that there's no real difference between the two types of  
11 dummies used in the rear impact testing.  
12 Q Okay. If you had done the testing, would you have used a  
13 dummy with a standing pelvis?  
14 A I don't know.  
15 Q Okay. Are you critical of Mr. Meyer for using a 50th  
16 percentile dummy and adding weight to it?  
17 MR. MARTENSON: Object. Asked and  
18 answered. Go ahead.  
19 MS. HARRIS: He's not been asked that  
20 question. Go ahead.  
21 THE WITNESS: I believe we talked  
22 about weight distribution type of stuff. I don't know  
23 that the 50th percentile dummy in terms of getting to the  
24 representative weight was the best choice, but I would  
25 probably defer to Dr. Banks on that as it relates to Mr.

Page 100

1 with instrumented dummies.  
2 Q Okay. Anything else?  
3 A I'm sure there's more out there, but certainly that's  
4 what I have brought.  
5 Q Okay. Are you critical -- well, are you critical of Mr.  
6 Meyer for not instrumenting his dummy, the dummy in his  
7 test?  
8 A To a certain extent. Obviously, I believe it would have  
9 shown non-injurious values for that performance. And  
10 obviously that performance was documented through seat  
11 damage and deformation as well as the kinematics of the  
12 dummy that we were able to come up with that opinion.  
13 Q Okay. So if you had done the test you would have  
14 instrumented the dummy?  
15 A Again, notwithstanding the fact that we had the  
16 opportunity to learn a little bit about the forces  
17 associated with that, assuming that that was important,  
18 that would have been good to -- having another data point  
19 to understand the seat performance.  
20 Q So why didn't do you a sled test?  
21 A Again, with all of the material that we had available to  
22 us in terms of the Kia testing, the government type of  
23 testing, the 301Rs, as well as the SAFE testing, I think  
24 we had enough data on the seat, as well as obviously our  
25 static testing.

Page 99

1 Crittenden.  
2 Q (By Ms. Harris) What would you have done if you had done  
3 the test?  
4 A I think I would have started probably with a 95th given  
5 at least my knowledge as I sit here about his weight.  
6 Q Do you believe that the fact he used a weighted -- that  
7 50th percentile changed the results or affected the  
8 results?  
9 A May have.  
10 Q More likely than not?  
11 A I don't know that I could say that without studying a  
12 little bit more of the anthropometry and weight  
13 distribution.  
14 Q All right. Are you critical of the metal plate used by  
15 Mr. Meyer over the gap, correct?  
16 A I think only insofar as we have discussed the interaction  
17 with the belt, either by positioning the belt or by its  
18 interaction with the belt during the crash, during the  
19 movement.  
20 Q So are you or are you not critical of him using the metal  
21 plate?  
22 A Again, the idea I think that I indicated to you is I am  
23 not necessarily critical of bridging the gap, I think as  
24 you had indicated. I think what I was critical of is its  
25 interaction with regard to the belt performance seen and

Page 101

26 (Pages 98 to 101)

1 observed in the video.  
2 Q Okay. What would you have done?  
3 A Again, used a material or a concept that was a little bit  
4 more real world in terms of belt interaction and  
5 restraining.  
6 Q What type of material would you have used?  
7 A I don't know that I have made a study at this point in  
8 time.  
9 Q Just something different?  
10 A Again, just maybe the belt positioning that's causing  
11 most of that. If you had a belt that was positioned down  
12 closer to that, I don't know that the material would have  
13 made all that much of a difference if he had positioned  
14 it properly.  
15 Q Okay.  
16 A I just don't know enough at this point in time as to  
17 parsing out which of those effects led to the performance  
18 that we observed.  
19 Q Besides the positioning over some clothing material, are  
20 you critical of the belt positioning? In other words,  
21 where he positioned the lap belt on the abdomen?  
22 A I don't know that I have studied that. Mr. Blaisdell  
23 did, obviously. But it led to performance that obviously  
24 increased the ramping beyond what I would normally  
25 expect.

Page 102

1 belt was also prepositioned above a wad of shirt  
2 material, potentially, artificially introducing  
3 additional slack in the system."  
4 Q Okay.  
5 A And all I was clarifying for you is I don't know if that  
6 increases the elevation of it closer to where you were  
7 talking about as much as it just introduces additional  
8 slack.  
9 Q Okay. I gotcha. All right. Let's talk about Kia's  
10 internal testing. I think you had a section in your  
11 report on that?  
12 A Yes, ma'am.  
13 Q You say that the Kia's internal testing is similar to but  
14 slightly less severe than the subject accident, right?  
15 A I believe so, yes, ma'am.  
16 Q Okay. So is it fair to say that the crash forces  
17 experienced in the subject accident were foreseeable?  
18 MR. MARTENSON: Object to the term  
19 "foreseeable."  
20 THE WITNESS: Yes, I would say that  
21 anything is foreseeable once it happens. But obviously  
22 as it relates to -- maybe a better term would be normal,  
23 common, frequent, infrequent, that type of thing. If  
24 that's what you mean by foreseeable, then I would think  
25 that the crash severities are kind of more towards the

Page 104

1 Q So you are not going to testify at trial that you are  
2 critical of where Mr. Meyer positioned the belt on the  
3 dummy's abdomen?  
4 A Specifically where, I don't know that I have studied  
5 that. I may be able to take a look at that more, but I  
6 think that combination of belt positioning and the gap  
7 material led to essentially the belt slipping down into a  
8 location that it was.  
9 Q Right. But when you say "belt positioning" you told me  
10 earlier you meant the position over the clothing  
11 material?  
12 A Correct.  
13 Q Okay. You are not talking about position on the abdomen,  
14 like, for example, was it too far up?  
15 A Well, any time you position it over clothes obviously  
16 that changes the relationship, so is it more up on the  
17 abdomen? It could be as a result of that. But it looks  
18 like the wad of material does change its position.  
19 Q Obviously it changes its position, but are you critical  
20 of where -- okay.  
21 I believe your report, and maybe it's Mr.  
22 Blaisdell's report, mentioned that the -- that lap belt  
23 was positioned closer to the belly button. I think one  
24 of you said that. Do you know whether yours did?  
25 A Mine does not, at least I don't see that. I see "The lap

Page 103

1 infrequent side versus frequent. I think that they would  
2 be more uncommon versus common in terms of the world of  
3 understanding of crashes. Do they happen? Absolutely.  
4 Q (By Ms. Harris) That's why Kia tests for them?  
5 A Well, the government sets out the testing. This testing  
6 was based on the 301R, which is a 50 mile an hour  
7 deformal barrier, so obviously the government is setting  
8 some idea of what crash forces to include in the design  
9 concepts.  
10 Q This isn't a 301 test?  
11 A No, but it's taken the data from a 301 type of test in  
12 terms of severity and applying that to the seat design.  
13 Q So Kia designed the seat to withstand similar crash  
14 forces?  
15 A Observed in a 301 type of test.  
16 Q Right.  
17 A And you certainly see that a little bit in their testing.  
18 Q All right. Let's go to your figures -- your graphs on  
19 Page 10.  
20 A Yes, ma'am.  
21 Q Tell me a little bit about these, Mr. Blaisdell's.  
22 A Yes, ma'am.  
23 Q And were you present for any of these tests, those block  
24 tests?  
25 A I'm sure I was. I have been doing testing since I

Page 105

27 (Pages 102 to 105)



1 started with Collision Research.  
2 Q Did you tell me you were not present for the Kia Sportage  
3 one?  
4 A Correct.  
5 Q Have you done any tests, block tests that were excluded  
6 from this analysis?  
7 A Not to my knowledge. I think the first graph indicates  
8 seat test that we have done over the last decade for  
9 conventional seats. And I think the lower graph was more  
10 towards a more complete set of testing.  
11 Q All right. In your notebook titled "Report," does it  
12 have each of these graphs like Mr. Blaisdell's notebook,  
13 set out separately?  
14 A I believe so.  
15 Q Okay. Can you just double check for me?  
16 A Yes, ma'am, it does.  
17 Q Okay. This is not a 207 test, correct?  
18 A It's a 207 type test.  
19 Q But it's not a -- there are a number of differences,  
20 correct?  
21 A Yes, ma'am.  
22 Q All right. And as an engineer, do you believe that  
23 compliance with FMVSS 207 alone is enough say that a  
24 vehicle is safe with respect to seat performance in a  
25 rear crash?

Page 106

1 Q You have read a number of his depositions?  
2 A Sure.  
3 Q Have you attended his depositions like you did today?  
4 A I can't recall any that I have attended.  
5 Q Okay. Well, he's testified in the past that he had some  
6 problems with the way 207 defines seat strength, and I  
7 just wondered if you shared that.  
8 If you don't know what I'm talking about, that's  
9 fine.  
10 MR. MARTENSON: Object to the form.  
11 Move to exclude.  
12 THE WITNESS: I would probably need to  
13 take a look at the context in which it was discussed.  
14 Q (By Ms. Harris) Right. So sitting here today, you don't  
15 have any criticisms or problems with the way 207 defines  
16 seat strength?  
17 A Again, not completely understanding your question, but in  
18 terms of just a general understanding of calculated inch  
19 pounds, no. Obviously, they have other requirements in  
20 there with regard to acceleration and whatnot, but I  
21 don't think you are referring to that.  
22 Q Right. Okay. So you don't have any criticisms at this  
23 point, right?  
24 A Correct.  
25 Q Okay. You agree that a vehicle seat that passes the

Page 108

1 A I think what it does is it gives the agencies and the  
2 designers and the manufacturers and the suppliers some  
3 starting framework to better understand crash  
4 performances in a seat system, so it gives them some  
5 guides into what to test for in terms of strength,  
6 capabilities, energy absorbing capabilities, and  
7 interactions with structures capabilities.  
8 Q Okay. So that's a starting framework but it's not the  
9 only thing that can be considered?  
10 A I believe that to be shown, yes.  
11 Q Okay. You also have to -- I believe you said before or  
12 today that you need to consider energy absorption  
13 capabilities, right?  
14 A Yes, I just indicated that.  
15 Q Okay. Do you have any problems or issues with the way  
16 207 defines seat strength?  
17 A I'm not sure I understand your question. If your  
18 question refers to just the manner in which you apply a  
19 load and then do the calculations, I don't know that I  
20 have a quarrel with that.  
21 Q Well, you've worked with Mr. Blaisdell for a long time,  
22 right?  
23 A Yes, ma'am.  
24 Q And you have read a number of his depositions, right?  
25 A I've what?

Page 107

1 standard but does not absorb energy -- does not safely  
2 absorb energy, that would be an unreasonably dangerous  
3 seat, correct?  
4 You know where I'm going with this?  
5 MR. MARTENSON: Move to exclude the  
6 comment.  
7 THE WITNESS: I don't know how that  
8 would apply to various types of seats and seat designs  
9 out there, so I'm not completely understanding your  
10 question.  
11 Q (By Ms. Harris) Have you heard of seats that have been  
12 tested such that were -- I'm sorry, like lawn chairs that  
13 have been tested such that they passed 207, but we would  
14 all agree would not be a safe seat for a vehicle because  
15 they don't have the energy absorption capability?  
16 A So you are talking simply meet the strength of 3300 inch  
17 pounds?  
18 Q Right.  
19 A But don't necessarily provide the characteristics -- the  
20 safe characteristics of automotive seats? I agree.  
21 Q Okay. All right. When you -- you have three -- you  
22 mentioned three tests with I believe strong seats. I  
23 think they all have -- all the seats in your report --  
24 and me jumping around here, but I think you can find them  
25 on Page 13.

Page 109

28 (Pages 106 to 109)



1 **A Yes.**  
2 Q These are all, all belts to seat?  
3 **A Yes, ma'am, except for one of the figures in No. 27,**  
4 **which is a comparison.**  
5 Q And did you bring all the data available to you for each  
6 of these tests you referenced?  
7 **A Yes, ma'am.**  
8 Q And you would agree that these seats are not  
9 substantially similar to the Kia Sportage seat?  
10 **A I don't believe they are.**  
11 Q All right.  
12 **A Some of them have similar strength. I'm not sure which**  
13 **ones, but the Kia Sportage seat had some strength**  
14 **characteristics that pushed it up into the ABTS category.**  
15 Q Did the amount of twist that you saw in the accident  
16 seat, was that within the appropriate range for the Kia  
17 standard?  
18 MR. MARTENSON: Object to the form.  
19 THE WITNESS: The Kia standard  
20 obviously requires a different thing with regard to the  
21 testing, so the testing that the Kia Motor people did met  
22 the standard because of the energy and forces and  
23 direction applied to the seat.  
24 The twist involved in the Crittenden seat, I think,  
25 provides us an understanding of the offset or

Page 110

1 number three and the time is 5:07 p.m.  
2 Q (By Ms. Harris) All right. Mr. Stephens, let's -- while  
3 I'm thinking about it, go through the rest of your file  
4 and mark what we need to. You have a CD with a -- it's  
5 labeled "Kia document production," well, actually two CDs  
6 or DVDs, and then there's an index. Do you know whether  
7 this includes all the documents produced?  
8 **A It only includes what's on the disks that were in that**  
9 **folder.**  
10 Q Okay. And do you know whether there are other documents  
11 that were produced not within these two?  
12 **A There may be. It may be in some of the previous marked**  
13 **exhibits.**  
14 Q Okay. We will go ahead and mark this index as Stephens  
15 Exhibit 32.  
16 (Exhibit No. 32 marked  
17 for identification.)  
18  
19 Q Do you need to keep those together?  
20 **A If it's okay.**  
21 Q I'm not marking the documents. I don't want to add the  
22 documents as an exhibit, I just want the index.  
23 **A Okay.**  
24 MR. MARTENSON: This is an index of  
25 the Kia documents?

Page 112

1 prepositioned manner in which Mr. Crittenden applied the  
2 load to the seat more so as a function of the specific  
3 accident circumstances as opposed to meting the  
4 requirement.  
5 Q (By Ms. Harris) Okay. So you are because of the  
6 differences in the accident you can't say that the  
7 Crittenden vehicle's resulting twist in the seat fell  
8 below the standard?  
9 **A Well, no, we have data both by Mr. Meyer and by Kia that**  
10 **suggests that it would have met the standard in terms of**  
11 **the twist.**  
12 Q Okay. That's just what I asked.  
13 **A I apologize.**  
14 MS. HARRIS: Okay. We need to change  
15 the tape so we can take a quick break.  
16 THE VIDEOGRAPHER: As we go off the  
17 record then the time is 5:00 p.m., and this is the end of  
18 media unit number two.  
19 (Recess 5:02 p.m. to  
20 5:08 p.m.)  
21  
22 (Mr. Gaddy exits deposition.)  
23  
24 THE VIDEOGRAPHER: Okay. We are back  
25 on the record. This is the beginning of media unit

Page 111

1 THE WITNESS: Yeah, that were  
2 contained on those two CDs.  
3 MR. MARTENSON: Gotcha.  
4 Q (By Ms. Harris) All right. The corres- -- you have a  
5 folder entitled "Duplicate correspondence."  
6 **A Yes, ma'am.**  
7 Q Duplicate correspondence?  
8 **A Yes.**  
9 Q It's already in the -- we have already marked all of  
10 these?  
11 **A I don't think so, unless you have marked the**  
12 **correspondence folder.**  
13 Q I thought there was another correspondence folder?  
14 **A I don't --**  
15 Q Do you know why you have a file entitled duplicate  
16 correspondence?  
17 **A Because I believe the original correspondence is**  
18 **maintained at our office.**  
19 Q Okay. All right. So these are the printed out e-mails  
20 an that sort of thing?  
21 **A Yes.**  
22 Q And would it include all the correspondence in this case?  
23 **A To my knowledge, yes, ma'am.**  
24 Q Okay. And I am marking that as Stephens Exhibit 33.  
25 (Exhibit No. 33 marked

Page 113

1 for identification.)  
2  
3 Q All right. As Exhibit 34, I will mark some additional  
4 documents you received from Kia, and I am going to mark  
5 the index.  
6 (Exhibit No. 34 marked  
7 for identification.)  
8  
9 Q And you have some documents relating to the -- well, you  
10 say subject vehicle, but then you say the Tahoe, so what  
11 are those?  
12 **A These are subject vehicle Tahoe information.**  
13 Q Okay. That's just material you have been provided,  
14 correct?  
15 **A Yes, ma'am.**  
16 Q And I will mark as Exhibit 36 the subject vehicle Kia,  
17 general documents related to the Kia; is that right?  
18 **A Yes, ma'am.**  
19 Q And then you have the police report, but that's already  
20 in your file, correct, in your red binder?  
21 **A I don't believe so.**  
22 Q Okay. That is in what I am marking as Stephens Exhibit  
23 35, which is a notebook --  
24 MR. MARTENSON: You mean 37?  
25 MS. HARRIS: Did we skip 35?

Page 114

1 **A The three folders were three folders indicated to be**  
2 **photos produced by plaintiff and inspection, others,**  
3 **colon, K-M-A-P-I and Messerschmidt,**  
4 **M-E-S-S-E-R-S-C-H-M-I-D-T, Safety Consultants.**  
5 Q Okay.  
6 **A And I would definitely agree that a number of these were**  
7 **taken before I was involved.**  
8 Q All of them? Well, they weren't taken by you?  
9 **A They were not taken by me.**  
10 Q Okay. What about you have some photos of the exemplar  
11 seat that you inspected. Are those included in the  
12 materials we have already marked?  
13 **A I don't believe so. I think those were as we received**  
14 **the seat.**  
15 Q Okay. I'm marking those as Exhibit 30.  
16 **A Thank you.**  
17 (Exhibit No. 39 marked  
18 for identification.)  
19  
20 Q And you have a folder titled "The head restraints," and  
21 what's in there? I'm marking it as Exhibit 40 for  
22 purposes of the record.  
23 (Exhibit No. 40 marked  
24 for identification.)  
25

Page 116

1 MR. MARTENSON: No.  
2 THE WITNESS: Exhibit 36 was the  
3 subject vehicle. Exhibit 35 was -- oh, the Tahoe. We did  
4 not mark it.  
5 Q (By Ms. Harris) So let's do this. This is Exhibit 35  
6 for the Tahoe documents.  
7 And Stephens 37 is for the investigative notebook,  
8 which has like -- which it looks like the police report,  
9 police photos, and some other photos that were not in the  
10 complaint, and some other photos that were not taken by  
11 you, correct?  
12 **A Correct.**  
13 (Exhibit Nos. 35 through 37  
14 marked for identification.)  
15  
16 Q Anything else in that file that I didn't mention?  
17 **A I think there's some fire and EMS document information**  
18 **there as well, in Exhibit 37.**  
19 Q All right. These three folders appear to have photos  
20 that were taken before you were in the case, and I am  
21 going to mark them collectively, if you will just confirm  
22 that's what they are. Exhibit 38.  
23 (Exhibit No. 38 marked  
24 for identification.)  
25

Page 115

1 **A I believe this is a printout of the NHTSA study on head**  
2 **restraints.**  
3 Q And how does that relate to your opinions in this case?  
4 **A I don't believe directly other than just the general**  
5 **understanding of the head restraints and their studies on**  
6 **them.**  
7 Q What about this?  
8 **A This was information that we had pulled concerning dummy**  
9 **dimensions as well as IARV information.**  
10 Q Okay. And that, again, just generally relates to your  
11 opinions with respect to the dummies by Mr. Meyer?  
12 **A Well, dummies in general, yes, as well as the injury**  
13 **assessment values just in general.**  
14 Q Okay. I will go ahead and mark that folder as 41.  
15 (Exhibit No. 41 marked  
16 for identification.)  
17  
18 Q Okay. Your pulse analyses comparison. These are your  
19 comparisons from the subject accident to Mr. Meyer's sled  
20 test; is that right?  
21 **A I don't know. Let me check that. I think there's a**  
22 **comparison of the Kia testing to the subject accident.**  
23 Q Okay.  
24 (Exhibit No. 42 marked  
25 for identification.)

Page 117

1  
2 **A Yes. This is the Kia comparison to the subject accident.**  
3 MR. MARTENSON: Sled test?  
4 THE WITNESS: Yes.  
5 Q (By Ms. Harris) And you have the printout of FMVSS 207  
6 and 202. Why do you have 202 in there?  
7 **A 202A had to do with the testing associated with the head**  
8 **restraint evaluations.**  
9 Q And then you have your scans and these are yours,  
10 correct?  
11 **A Yes, ma'am.**  
12 Q All right. Do we have those electronically anywhere or  
13 just the printouts?  
14 **A Just the printouts right now.**  
15 Q Okay. So Exhibit 43.  
16 (Exhibit No. 43 marked  
17 for identification.)  
18  
19 Q And the IIHS material is 44.  
20 (Exhibit No. 44 marked  
21 for identification.)  
22  
23 Q Well, it's in another folder. How does that support your  
24 opinions?  
25 **A This just shows some of the information with regard to**

Page 118

1 **over the years.**  
2 **I think that in terms of research activities I have**  
3 **researched and studied rollovers, and actually on the**  
4 **second page I have published on that which I don't think**  
5 **is on here.**  
6 **And I think some of these professional affiliations**  
7 **in terms of the committees and the SAE subcommittees have**  
8 **changed names.**  
9 Q Do you have an up to date CV?  
10 **A I don't. I need to, but I haven't.**  
11 Q Okay. All right. Have you published anything related to  
12 seat design that's not on there?  
13 **A I think all my pubs and presentations regarding seats are**  
14 **all on here.**  
15 Q Okay. And what SAE subgroups are you a member of that  
16 are not listed?  
17 **A I'm not sure if I have listed the Dynamics Committee.**  
18 **And I think the Reconstruction Practices Committee has**  
19 **changed names. I think the Seat Standards Committee has**  
20 **probably long since disbanded, but -- I think that's**  
21 **mostly it.**  
22 Q Okay. I'm marking as Exhibit 46 your testimony list.  
23 **A Yes, ma'am.**  
24 (Exhibit No. 46 marked  
25 for identification.)

Page 120

1 **the IIHS evaluation of the subject vehicle and**  
2 **specifically obviously the head restraint and seats.**  
3 Q Okay. Now you received some deposition notices. You got  
4 the owners manual. You got the de-trim protocol, and an  
5 objection to the deposition notices right here. Anything  
6 about these that affect your opinions?  
7 **A I don't believe so.**  
8 Q Okay. You brought with you today your CV?  
9 **A Yes, ma'am.**  
10 Q And that is going to be Exhibit 45.  
11 (Exhibit No. 45 marked  
12 for identification.)  
13  
14 Q Is that a true and accurate copy of your CV?  
15 **A Yes, ma'am.**  
16 Q I should ask, is it up to date?  
17 **A Well, that's a different question. I haven't updated it**  
18 **in quite a while. Yes, I believe that there's probably**  
19 **some additional stuff on here and some things have**  
20 **changed names.**  
21 Q Okay. Tell me what changes you have made or would make  
22 to that CV to make it up to date.  
23 **A Well, certainly in my experience. I think by now, and I**  
24 **think -- I mean, I haven't said it in my report, but I**  
25 **think I'm up to over 1800 crashes that I have looked at**

Page 119

1  
2 Q Tell me how many of those cases did you testify outside  
3 of -- excuse me -- accident reconstruction?  
4 **A How many of these cases have I testified outside?**  
5 Q Outside of accident reconstruction.  
6 **A I would say that there's a number of these where I have**  
7 **done reconstruction and some aspects of seat design, and**  
8 **maybe even some related to door system design.**  
9 Q Okay. Which ones have you offered opinions about seat  
10 performance and seat design?  
11 **A I think -- off the top of my head, I think there was some**  
12 **seat aspect opinions associated with Thomas, some with**  
13 **Portis.**  
14 Q You offered design opinions in Portis?  
15 **A I believe I offered some collision performance and**  
16 **collision seat evaluation opinions in Portis.**  
17 Q Okay?  
18 **A A little bit in Panarello.**  
19 Q Panarello?  
20 **A Yes, ma'am.**  
21 Q Versus who? What file number is that?  
22 **A I don't have a number. Oh, what file number. It's**  
23 **160906.**  
24 Q Okay. Which other ones?  
25 **A I believe Melgar, M-E-L-G-A-R.**

Page 121

31 (Pages 118 to 121)

1 Q And what vehicle was involved in that case?  
2 **A I don't recall. If memory has it, it was a minivan.**  
3 **Gray versus Mazda. A little bit in Fitzgerald. And**  
4 **that's all I can recall of this list right now.**  
5 Q In all those cases, did you testify that a seat was not  
6 defective, the seat at issue was not defective?  
7 **A I would probably have to go back and review my testimony**  
8 **on that. I don't recall any such opinions.**  
9 Q You don't recall any such opinions?  
10 **A Meaning of defect, defective.**  
11 Q Okay. Right. But did offer the opinions that they were  
12 not defective?  
13 **A I would have to re-review all my work on that.**  
14 Q Okay. Have you ever offered an opinion that a seat was  
15 defective?  
16 **A I don't think anything that resulted in testimony, in my**  
17 **memory.**  
18 Q Have you ever offered opinions to anyone, regardless of  
19 whether you testified, that a seat was defective?  
20 **A I'm sure I have found some conditions that were**  
21 **defective. I just don't recall them as I sit here.**  
22 Q You can't identify any vehicle seat you found to be  
23 defective?  
24 **A Not as I recall sitting here.**  
25 Q All right. I'm marking your folder titled "OOP images,"

Page 122

1 Q All right. Do you have an opinion as to whether Mr.  
2 Crittenden was in the position of any of those that  
3 person in the illustrations?  
4 **A Again, beyond what we have talked about, I haven't made**  
5 **that evaluation.**  
6 Q Can you pull out any of those images and say you believe  
7 more likely than not Mr. Crittenden was in this position?  
8 **A I would defer to Dr. Banks on specific positioning.**  
9 **However, if, for example, one of these images has him**  
10 **leaning one way or another on the seat which would**  
11 **provide asymmetric loading much like you and I have**  
12 **talked about. I would suggest that that might be**  
13 **something either, again, by medical condition or by his**  
14 **own volitional prepositioning that would have affected**  
15 **that seat performance in the manner that you and I have**  
16 **talked about.**  
17 Q Okay. Are all those -- do all of those images depict  
18 occupants, an occupant who is out of position?  
19 **A No.**  
20 Q They don't?  
21 **A No.**  
22 Q Okay. Do those images have any numbers on them?  
23 **A No.**  
24 Q All right. If you will pull out for me the images that  
25 you believe depict an occupant out of position.

Page 124

1 as Exhibit 47?  
2 **A Yes. This one is 46.**  
3 **(Exhibit No. 47 marked**  
4 **for identification.)**  
5  
6 Q What is this folder? What are these images?  
7 **A These just are various diagrams and depictions of how an**  
8 **occupant would be in various stages of an out of position**  
9 **that would effectively interact with the seat in various**  
10 **manners. And obviously, that would have some bearing and**  
11 **effect on injury and performance.**  
12 Q Is that a Kia Sportage vehicle that you have in those  
13 images?  
14 **A No, ma'am.**  
15 Q Just a generic vehicle?  
16 **A Yes, ma'am.**  
17 Q Okay. Did you attempt to replicate Mr. Crittenden's size  
18 and weight in doing those, creating those images?  
19 **A No, ma'am.**  
20 Q Did you do that for this case or were those images that  
21 you use in other cases?  
22 **A These were images that I had done for some presentations**  
23 **slash research.**  
24 Q Okay. So they weren't specific for this case?  
25 **A They weren't specific for any case.**

Page 123

1 **A I think the starting position is essentially an in**  
2 **position.**  
3 Q Okay. I want you to pull out the ones you believe the  
4 occupant is out of position.  
5 **A And, again, it depends on how you define out of position**  
6 **and what it means.**  
7 Q You defined it, so --  
8 **A I don't know that I defined it, but obviously these give**  
9 **several examples of it, which is essentially an occupant**  
10 **that is not ideally positioned for crash forces.**  
11 Q Okay. Pull out all of the images depicting an occupant  
12 out of position, please.  
13 **A (Witness complies.)**  
14 Q Got it.  
15 **A Yeah, I just turned up on the side various stages of out**  
16 **of positions, remembering that there's two different**  
17 **views on there so they actually show some of the same**  
18 **positions from different viewpoints.**  
19 Q Okay. I will pull out all the ones that you have turned  
20 up and I am going to mark those as Exhibit 48, and you  
21 can double check that.  
22 **(Exhibit No. 48 marked**  
23 **for identification.)**  
24  
25 Q Exhibit 48 is all the ones you consider to be out of

Page 125

1 position?  
2 **A Some various stages of out of position through two**  
3 **different viewpoints.**  
4 Q All right. Do you assume a normal spine for all of those  
5 images for the occupant in all of those images?  
6 **A Again, I haven't assumed really any type of a spine per**  
7 **se, as much as I'm trying to illustrate various stages of**  
8 **out of position in terms of the operation of the vehicle.**  
9 Q You brought with you a group of thumb drives that say  
10 "Bad media" on the top?  
11 **A Yes.**  
12 Q What is that? What does that mean?  
13 **A It appears that at least some of the documents indicated**  
14 **on there were somehow bad and --**  
15 Q Corrupted?  
16 **A -- corrupted or something along those lines.**  
17 Q Okay. So did you ask for other copies of those  
18 documents?  
19 **A Presumably.**  
20 Q And they would be included in other parts of your file?  
21 **A I would think so.**  
22 Q Okay. Well, are they?  
23 **A I don't have any way of knowing. I would need to**  
24 **probably check the numbers referenced on there to see if**  
25 **I have them reflected anywhere else, and I don't know**

Page 126

1 **A Okay.**  
2 Q And then the EDR we pulled out.  
3 **A Okay.**  
4 Q You can put those back in the folders if you want to.  
5 **A The only other two groups of notebooks that I mentioned**  
6 **at least, is the Docket, the 89-20 Docket, which is**  
7 **volume two over there and volume one over here.**  
8 Q It's a NHTSA docket?  
9 **A Yes.**  
10 Q Let me just see those, the 89-20.  
11 MR. MARTENSON: Is that the NPRM  
12 docket?  
13 THE WITNESS: I believe it's the NPRM.  
14 It also has the responses. It has everything on the  
15 89-20.  
16 Q (By Ms. Harris) I am going to mark just the index for  
17 these as Exhibit 49.  
18 (Exhibit No. 49 marked  
19 for identification.)  
20  
21 Q What was the other?  
22 **A Volume two of that.**  
23 Q Where is that?  
24 **A It's right in front of you.**  
25 Q Okay. So Exhibit 50 will be the index to that volume.

Page 128

1 **that at this point.**  
2 Q What is Crittenden Fard, is that your scans?  
3 **A Faro?**  
4 Q It says F-A-R-D, unless it's a typo.  
5 **A Oh, it's Meyer's Exhibit No. 12.**  
6 Q Okay. And these also appear to be Mr. Meyer's exhibits  
7 which you brought a hard copy as well, correct?  
8 **A Yes, ma'am.**  
9 Q Okay. Have we -- you have a group of thumb drives that  
10 don't have a label on the outside, but they are labeled  
11 "Plaintiff's initial disclosure documents and plaintiff's  
12 response to Kia's RFP," so these are documents produced  
13 by the plaintiff?  
14 **A It sounds like it.**  
15 Q Did you review these?  
16 **A If they are in part of some of the legals and whatnot, I**  
17 **may have reviewed them.**  
18 Q Okay. Was there anything significant to your opinions in  
19 these documents?  
20 **A Again, not that hasn't been pulled out and marked**  
21 **already.**  
22 Q Okay. So have we either marked or identified all the  
23 documents in your file today?  
24 **A What was that folder underneath Meyer's?**  
25 Q Medical records we pulled those out.

Page 127

1 (Exhibit No. 50 marked  
2 for identification.)  
3  
4 Q I'm not sure that I have ever marked 50 exhibits ever.  
5 All right. Anything else that we haven't either  
6 identified or marked?  
7 **A I think you have successfully marked everything but De's**  
8 **briefcase.**  
9 MR. MARTENSON: I'm keeping it away  
10 from her.  
11 Q (By Ms. Harris) Let's end on a round number. Did we  
12 mark your billing records?  
13 **A I seem to remember that was early on.**  
14 Q Okay.  
15 MR. MARTENSON: Exhibit 24.  
16 Q (By Ms. Harris) All right. I am not going to go over  
17 your professional background because I've -- well, let me  
18 ask you this.  
19 Has that changed since -- you gave a deposition in  
20 January, right?  
21 **A Yes, ma'am.**  
22 Q Okay. Has anything regarding your professional  
23 background changed since then? Well, it's still January,  
24 since early January?  
25 **A I don't believe so.**

Page 129



1 Q Okay.  
2 **A Obviously we talked about my CV and some changes.**  
3 Q Right. I'm not sure if you were so I'm going to ask  
4 this.  
5 How many cases have you worked on for Mr. Martenson  
6 or any member of his firm?  
7 **A I don't know as I sit here. I think there's some on my**  
8 **four-year list that were for his firm.**  
9 Q Okay. Why don't you pull that out and identify those for  
10 me.  
11 MR. MARTENSON: Exhibit 46.  
12 THE WITNESS: Okay. Hardy, H-A-R-D-Y  
13 versus Ford.  
14 Q (By Ms. Harris) Is that a seat back case?  
15 **A No, ma'am.**  
16 Q What was the allegation in that case?  
17 **A Restraints, I think.**  
18 Q Was it an Explorer?  
19 **A It was an Explorer Sport Trac truck in Alabama, Eutaw**  
20 **maybe.**  
21 MR. MARTENSON: E-U-T-A-W.  
22 THE WITNESS: I think this trial  
23 location is wrong. It says Birmingham, so can I change  
24 it?  
25 Q (By Ms. Harris) Sure.

Page 130

1 **A Again, with the exception of taking a look at all**  
2 **additional discovery, and certainly preparing for trial**  
3 **and evaluating any other evidence that comes forward.**  
4 Q Okay. Do you anticipate doing any additional testing?  
5 **A If the need arises.**  
6 Q Do you anticipate sitting here today doing any additional  
7 testing?  
8 **A Again, not given what we know today, but if the need**  
9 **arises for additional testing based on additional**  
10 **information.**  
11 Q Right. But assuming no additional information you don't  
12 intend to do any additional testing?  
13 **A That would be a correct statement.**  
14 Q Have we gone over all of your opinions today?  
15 **A I would believe major ones for sure.**  
16 Q What about the minor ones?  
17 MR. MARTENSON: Anything that you know  
18 that you can think of that has not been covered.  
19 Q (By Ms. Harris) We still got a long time on the clock.  
20 **A You too. No, I think we have hit the ones that as it**  
21 **relates to this case.**  
22 Q I don't want your opinions on who is going to win the  
23 Super Bowl. I'm just talking about your opinions as it  
24 relates to this case.  
25 **A I believe you asked me earlier about Mr. Meyer's sled**

Page 132

1 **A How do you spell it again?**  
2 MR. MARTENSON: E-U-T-A-W.  
3 THE WITNESS: I think that's the only  
4 one I recall on here being for their firm.  
5 Q (By Ms. Harris) Okay. What about any cases prior to  
6 your four-year list?  
7 **A I'm sure there was, but I don't recall.**  
8 Q You mentioned that you testified in court. That was a  
9 Kia vehicle, right?  
10 **A Yes, ma'am.**  
11 Q And you testified as a design expert?  
12 **A That accident reconstruction and performance evaluation.**  
13 Q Do you know whether there were any other seat performance  
14 evaluation experts in that case?  
15 **A I believe there were.**  
16 Q Who?  
17 **A I believe Mr. Meyer was one.**  
18 Q I'm sorry. I meant for either JCI or Kia.  
19 **A I thought Dr. Viano was involved in that.**  
20 Q Viano was for JCI, correct, or were you?  
21 **A I think I was working for counsel representing JCI. My**  
22 **memory was that Dr. Viano was working for counsel**  
23 **representing Kia.**  
24 Q Okay. All right. Have we -- have you completed your  
25 work in this case?

Page 131

1 **test having deformed the seat too much, and I think you**  
2 **elicited that information. I believe we talked about**  
3 **it's affect on the ramping and the occupant positioning.**  
4 **So, yes, I believe we have. Everything that I a am --**  
5 **can aware of -- be aware of at a quarter of six.**  
6 MS. HARRIS: Okay. Let's take a quick  
7 break. I may have a few questions just that I did not  
8 hit and then we can be done.  
9 THE VIDEOGRAPHER: With permission of  
10 counsel as we go off the record the time is 5:45.  
11 (Recess 5:45 p.m. to  
12 5:48 p.m.)  
13  
14 THE VIDEOGRAPHER: We are back on the  
15 record. The time is 5:48.  
16 Q (By Ms. Harris) On Page 15 of your report, got that  
17 handy?  
18 **A Yes, I do.**  
19 Q All right. You list five mechanisms for an out of  
20 position occupant, or conditions, excuse me, that may  
21 exist at the time of rear-end crash, and then you list  
22 the five conditions. Which ones do those apply to our  
23 case?  
24 **A Well, if there's intentional movement if that goes into**  
25 **it would obviously be related.**

Page 133

1 Q Which we just don't know, right?  
2 **A Again, just looking at the seat deformation would suggest**  
3 **that you're positioned on one side or the other.**  
4 Q But do you know which one of -- like, which one of these  
5 things, or which one of these intentional movements Mr.  
6 Crittenden was doing, if any?  
7 **A Not specifically. I would just suggest that either,**  
8 **again, by prepositioning by medical condition or by**  
9 **reconstruction or some combination of all three, tend to**  
10 **produce the loading and the deformation on the outboard**  
11 **side of the seat.**  
12 Q Do you know whether he was A, reaching for something to  
13 the left or the right?  
14 **A I do not.**  
15 Q Do you know whether he was attending to a child in the  
16 rear?  
17 **A My understanding is there was no children in the rear.**  
18 Q Do you know whether he was looking around the head  
19 restraint to see what was coming from the rear?  
20 **A I do not.**  
21 Q Do you know whether he was lifting up the seat to put on  
22 or take off an item of clothing?  
23 **A I do not.**  
24 Q Do you know whether he was leaning forward away from the  
25 seat to reach -- to reach or for comfort?

Page 134

1 **but, again, I would defer to him on how he's three**  
2 **dimensionally lined them up.**  
3 Q Okay. Do you think any amount of override or underride  
4 affected the injury causation?  
5 **A I would defer to Dr. Banks on that?**  
6 Q So you don't have an opinion one way or the other?  
7 **A That's correct.**  
8 Q Have you quantified any override or underride?  
9 **A No, I haven't.**  
10 Q Have you spoken with Mr. Hoover in this case?  
11 **A I believe only at the inspection of the vehicles. I**  
12 **believe he was there when I inspected the vehicles.**  
13 Q Okay. Have you spoken with any other experts in this  
14 case besides Mr. Hoover or Dr. Banks?  
15 Obviously, you spoke with Mr. Meyer during the  
16 inspections.  
17 **A Yes.**  
18 Q But anyone else?  
19 **A Mr. Kennett, yes.**  
20 Q Okay. Anybody else?  
21 **A I don't think so.**  
22 Q All right. Number five doesn't apply to this case,  
23 correct?  
24 **A That's correct.**  
25 Q All right. Have you attempted to quantify the amount of

Page 136

1 **A I do not.**  
2 Q All right. So number two doesn't apply, correct?  
3 **A I don't believe so, not in this crash.**  
4 Q All right. Number three doesn't apply?  
5 **A Oh, he is not turning right or left, that's correct, but**  
6 **it is impact by an inattentive driver.**  
7 Q Right. But that doesn't relate to him being out of  
8 position?  
9 **A Well, the oblique and angular nature of it, that's**  
10 **correct. It doesn't apply to that.**  
11 Q Okay. What about number four?  
12 **A I would defer to Mr. Hoover on this, but obviously the**  
13 **Tahoe is a larger vehicle.**  
14 Q Well, do you know whether -- you read his report,  
15 correct?  
16 **A Yes.**  
17 Q Did he mention this?  
18 **A I didn't see a significant reference to override or**  
19 **underride.**  
20 Q Okay. And you inspected the vehicles yourself, right?  
21 **A I sure did.**  
22 Q And you are qualified to do an accident reconstruction?  
23 **A I have been, yes.**  
24 Q Did you see any evidence of override or underride?  
25 **A I saw some unique damage patterns on the back that --**

Page 135

1 force applied during the active sequence to Mr.  
2 Crittenden, or are you going to leave that to Dr. Banks?  
3 **A Well, specifically, we have information regarding that,**  
4 **vis a vis the seat deformation that we talked about and**  
5 **the load required to bend it in the manner that it was.**  
6 Q Okay. And what is the load required to bend it in the  
7 manner that it was?  
8 **A Over 41,000 inch pounds.**  
9 Q So you -- any other information which identifies the  
10 amount of force required to cause the deformation besides  
11 the tests that you had -- or that Mr. Blaisdell did?  
12 **A Well, and obviously our understanding of the seat**  
13 **performance of Mr. Meyer's test, and the Kia testing**  
14 **relative to testing where we have instrumented dummies.**  
15 Q Anything else?  
16 **A No, ma'am.**  
17 Q Okay. All right. You kept your billing records in front  
18 of you. Did you have any face to face meetings with any  
19 of the other experts?  
20 **A No, ma'am.**  
21 Q How many -- you said you remember one call with Dr.  
22 Banks, correct?  
23 **A Yes, ma'am.**  
24 Q And you just spoke with Mr. Hoover at the inspections,  
25 right?

Page 137

1 A Yes, ma'am.

2 Q And besides counsel for Kia, did you have any meetings  
3 within -- well, within your firm about this case?

4 A Well, I have certainly talked to Mr. Blaisdell as we were  
5 evaluating the case and working up all the materials.

6 Q Did you come to opinions independently, or did you come  
7 to an opinion together about the safety performance of  
8 this seat?

9 A I'm not sure I understand the question.

10 Q Well, did you each form your opinions and then say hey, I  
11 don't think this seat is defective, or did you  
12 collaborate together and say, okay, together we looked at  
13 this information and we don't believe the seat is  
14 defective?

15 A Well, what we did was take a look at all the available  
16 information. And obviously I had performed work that he  
17 did not, and he performed work that I did not, and we  
18 took that into account when both of us, I'm sure, were  
19 making or respective evaluations.

20 Q Did you collaborate on the -- on your reports?

21 A Well, he certainly helped me out with my report in terms  
22 of getting some of the materials put together in the  
23 fashion that he did. I don't believe I helped him out  
24 with his report as much.

25 Q All right. Did you -- do you have any drafts?

Page 138

1 A No, ma'am.

2 MS. HARRIS: All right. Those are all  
3 the questions I have for you.

4 MR. MARTENSON: Thank you. On the  
5 record, the witness would like to read and sign so just  
6 send me the errata. And I would like to get an e-tran  
7 and then I would like an actual paper copy with all the  
8 paper exhibits. And the e-tran would also have  
9 electronic exhibits.

10 THE VIDEOGRAPHER: As we go off the  
11 record, this is the end of media unit number three, and  
12 the time is 5:56 p.m.

13  
14 (Signature reserved.)

15 (Deposition concluded  
16 at 5:56 p.m.)

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Page 139

1 STATE OF WASHINGTON ) I, CHRISTY SHEPPARD,  
2 ) ss CCR #1932, a duly Certified  
3 County of Pierce ) Court Reporter, in and for the  
4 State of Washington residing  
5 at Buckley, do hereby certify:

6 That the foregoing deposition of GREGORY D.  
7 STEPHENS was taken before me and completed on January 26,  
8 2018, and thereafter was transcribed under my direction;  
9 that the deposition is a full, true and complete  
10 transcript of the testimony of said witness, including  
11 all questions, answers, objections, motions and  
12 exceptions;

13 That the witness, before examination, was by me  
14 duly sworn to testify the truth, the whole truth, and  
15 nothing but the truth, and that the witness reserved the  
16 right of signature;

17 That I am not a relative, employee, attorney or  
18 counsel of any party to this action or relative or  
19 employee of any such attorney or counsel and that I am  
20 not financially interested in the said action or the  
21 outcome thereof;

22 That I am herewith securely sealing the said  
23 deposition and promptly delivering the same to Attorney  
24 Rebecca Franklin Harris.

25 IN WITNESS WHEREOF, I have hereunto set my  
signature on this 31st day of January, 2018.

Christy Sheppard.  
Christy Sheppard, CCR, RPR  
Certified Court Reporter No. 1932  
(Certification expires 05/06/18.)

